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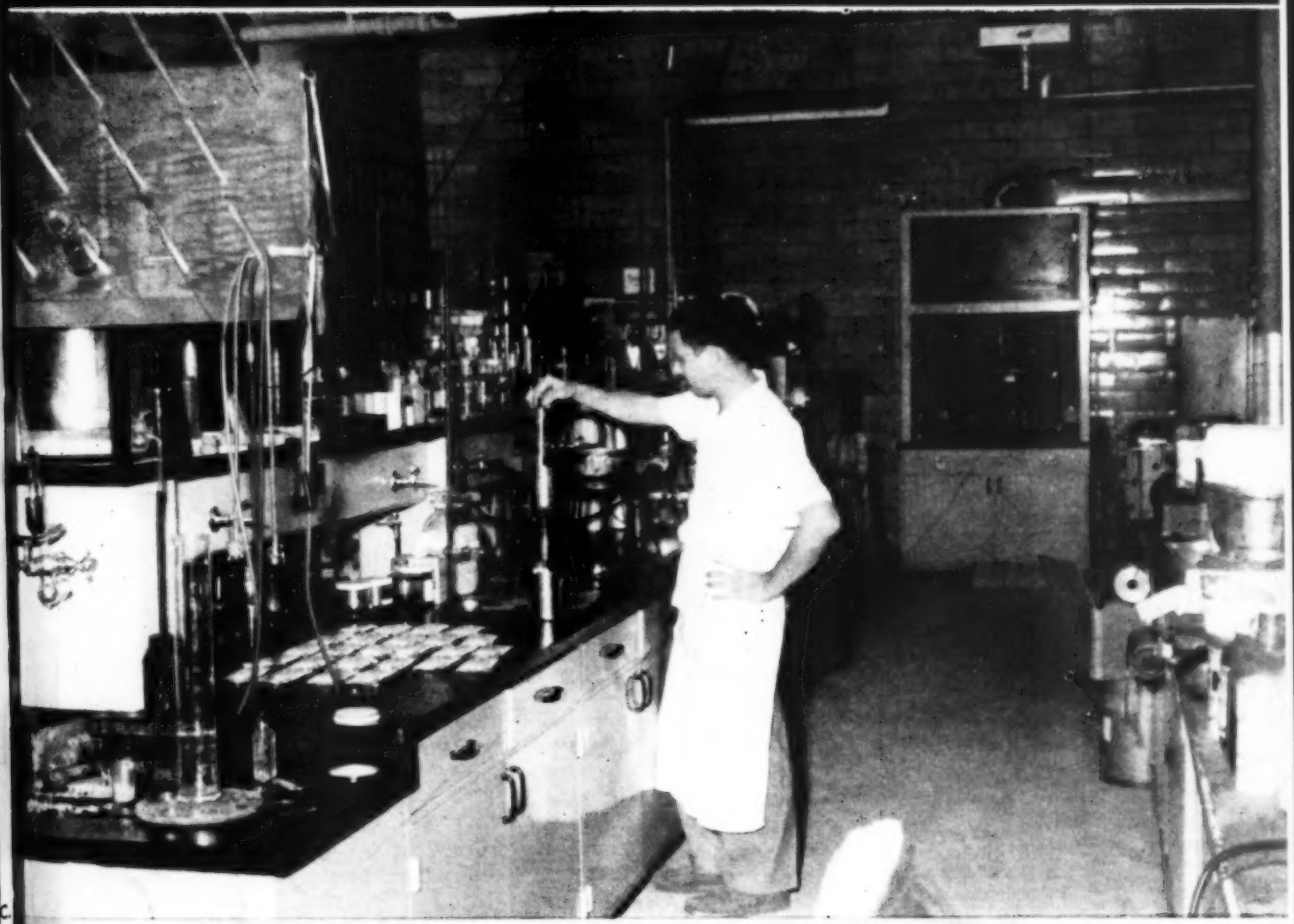

SEPTEMBER 1953

How F & F Laboratories makes Hard Candy
How to Use the Raw Material Conversion Factor
The Role of Design in Machinery Sanitation
How to Use Lecithin in Chocolate Manufacturing

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Editor's Column

THERE is some interesting reading in the current issue of the Activities Report of the Research and Development Associates, Food and Container Institute. An experimental chocolate nut roll is described, and some of the development problems in connection with it. There is also further notes on the improvement of chocolate-type coatings and in some of the continuing problems of chocolate bars. There is some discussion of the need of a suitable coconut bar, and the problems of finding a stable coconut product. Under the heading of All-Purpose Survival Rations, the specifications for an ideal bar, which would provide the essential food for survival. "A single type of survival bar would be most desirable in a two-ounce weight, that could be used under any survival conditions. The intake under varied conditions could be regulated by the number of units consumed. The flavors could be varied. The following composition is desired, 30% fat, 25% protein, and 45% carbohydrate. Each two-ounce bar should contain at least 250 calories and 25% of the daily requirements for all the essential vitamins." The other obvious requirements are palatability and stability at high temperatures for prolonged periods. Here is a real problem in candy formulation, the solution of which would be of great benefit to the armed forces.

There is also a short history of the cooperation between the candy industry and the quartermaster corps in developing candy to specifications for the armed forces, by Pat Cosler.

FOR those interested in the methods of cocoa growing and harvesting, a new booklet by The Information Services Department of the Gold Coast will prove absorbing reading. There is also a very graphic description of the ravages of swollen shoot on the production of that region.

A FEW weeks ago a Chicago department store was advertising boxes of Hershey bars at 83c.

COCOA plantations are available in Costa Rica on a partnership basis to any American investor. Anyone interested in half interest in a plantation should contact George F. Bowman, P.O. Box 1973, San Jose, Costa Rica.

THIS industry could use more of the kind of community relations show that Spangler Candy Company put on recently in Bryan, Ohio. When this firm acquired the Dum Dum pop line, they held a "Dum Dum Day" in their city, and invited all the kids to come around for a free pop. Candy manufacturers don't seem to realize that their product, candy, is just about as effective a good-will generator as anything could be.

BRITONS have cut down on smoking since the government abolished candy rationing in February, London tobacconists report.

TRAVELING Confectioners and Suppliers is the name of a new organization which is dedicated to the proposition that conventions are good places to sell, and that confectioners in all parts of the country should be able to attend one in their own vicinity. Roy Oringer, of Oringer Manufacturing Company is the president of the group, and Sam Kaye of I. D. Box Company, John Joyce of Wallace and Company, and William A. Grecca are associated with him. Shows are planned for October 4 to 6 in Pittsburgh at Hotel William Penn, October 8 and 9 in Cleveland at Hotel Statler and October 11 to 14 in Detroit at Hotel Statler. If these shows indicate that this type of selling works, a more extensive tour will be planned for next year. A complete display is planned for each city, including fancy boxes, gifts, holiday candy, flavors and equipment for the retail manufacturer.

THE NCA report on its Southeastern Regional Meeting contains some interesting reading on the subject of sugar bloom. The recorded discussion by those present indicated some confusion on the nature of sugar bloom, and a considerable difference of opinion on the seriousness of the problem from a practical standpoint. This illustrates the basic problem of conducting any research into candy manufacturing and shipping problems, as so many problems that confront the industry have never been analyzed and stated in concrete terms. It seems that more time should be spent in defining a problem before any research is attempted, so that the manufacturers who support this research can understand the aims of a project, and appreciate its importance to them.

Further in this same report is a talk given by T. A. Pickett of the Georgia Experiment Station, on peanut staleness and rancidity. He suggests that the peanut users might study the practices of the canner, who has much the same problem in obtaining good raw materials. Most of the canners now specify the type of seed that is to be planted, the method of planting and growing, and how the product should be harvested and delivered. In return for this care on the part of the grower, the canner guarantees him a premium price over the market. Candy manufacturers might investigate this method of getting a superior raw material, from a dependable source.

ISRAEL is planning to deration candy soon. As far as we know, this is the last of the free countries that still maintains candy under ration.

BALL GUM, INC., has developed a new ball gum and charm vendor which takes the element of chance out of this time honored selling device. A recent court ruling made the old type of machine, which vended gum and charms intermittantly, subject to lottery regulations. The new machine shows before the sale whether or not there will be a charm vended with the gum.

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Now you'll be glad to know—Citric Acid Anhydrous has been recognized by the U. S. Pharmacopoeia and our product will hereafter be called *Pfizer Citric Acid U.S.P. Anhydrous.*

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Confectioners' Briefs

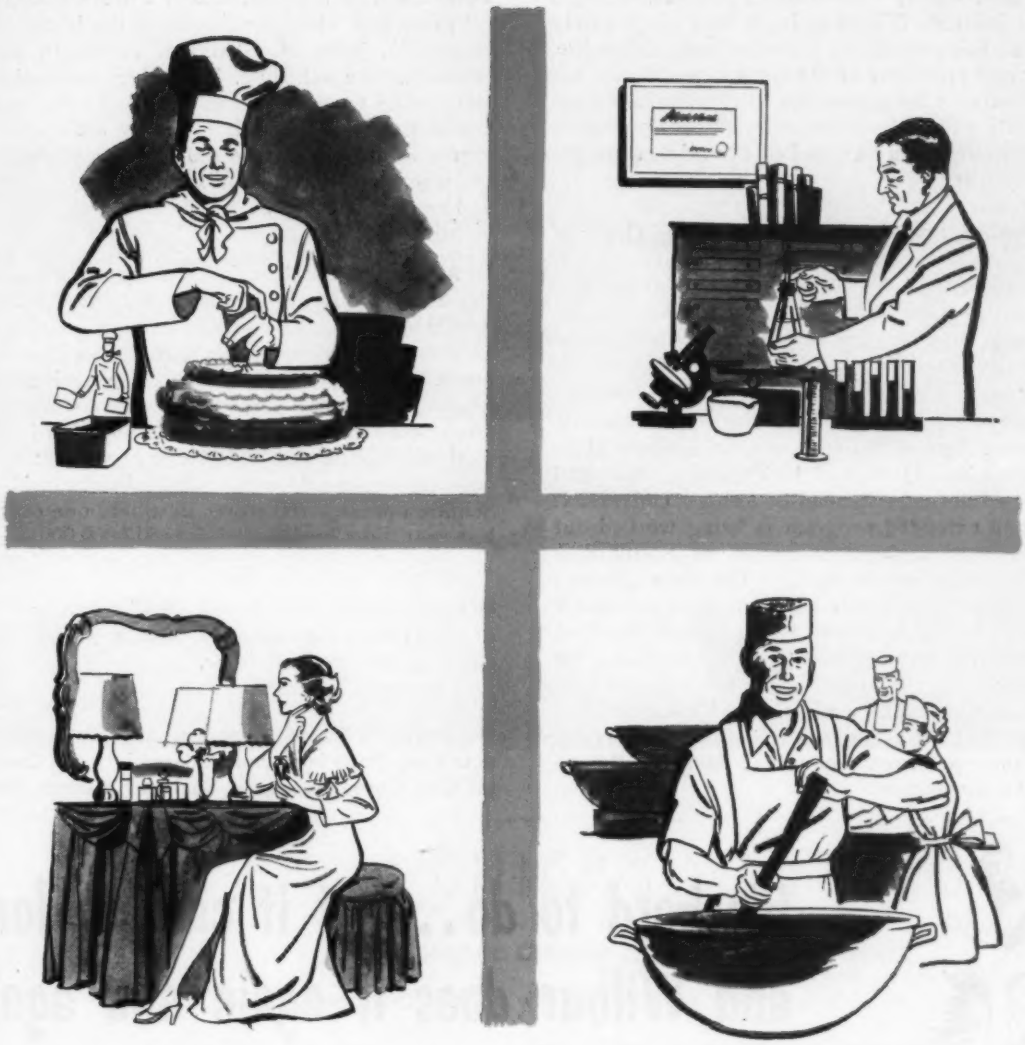
The Adele Candy Company, has been formed with **Theodore A. White,** former vice president of Sierra Candy Company as president, and **Neal V. Diller,** former president of Chase Candy Company, as vice president. The new firm has leased a three-story building in San Francisco, and will begin producing a full line of chocolates and other confections around December first.

Sophie Mae Candy Corporation has broken ground for a $250,000 addition to their factory in Atlanta. When completed this fall, the new facilities will provide 12,000 additional square feet of floor space for the manufacture of the two nationally distributed products, peanut brittle and coconut brittle. An aggressive advertising program is being planned to further expand distribution when the new factory addition is producing.

White Stokes Company, Inc., Chicago, manufacturers of ingredients for the confectionery trade have appointed Frederick J. Stokes of Stokes and Company, Atlanta, Georgia to handle distribution of the company's products in Georgia, Alabama, and Florida, with the exception of the Miami area.

The Nestle Company, Inc. has appointed **Albert L. Shirley** as Southern Sales Representative, Bulk Division it was announced by **Thomas F. Corrigan,** Bulk Sales Manager. Mr. Shirley will be headquartered in Atlanta, Georgia, with his territory extending from the Virginia-Carolina border south to Florida and west to Texas. He will be responsible for all sales of chocolate coatings, cocoas, liquors, and granules to the confectionery and food processing industries in the entire South.

Chex Company, Philadelphia is introducing GAY-CHEX, a 5c candy in square tablet form. It is available in 5 different flavors—peppermint, spearmint, wintergreen, licorice and violet and are dotted with flavor with splashes of color throughout each candy square. Each flavor is wrapped in a different hue to correspond with its taste. The GAY-CHEX candy is packed 14 to the pocket roll, 24 rolls to the box, 20 boxes to the shipping case, and the box becomes a self-contained counter display when opened.



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EXCHANGE orange oil is made entirely from selected oranges from the groves of sunny California. This finer fruit, plus carefully controlled processing, gives you an oil of unmatched fragrance and uniform performance.

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Sophie Mae Candy Corporation, Atlanta, Georgia now has **John H. O'Meara, Jr.,** a New York candy broker, as sales manager. J. Beauchamp Coppedge, founder and president of the corporation, feels that Mr. O'Meara's wide experience will "help strengthen and greatly widen the distribution of the company's products in super markets and other outlets throughout the country".

E. J. Brach & Sons is a candidate for the Oscar of Industry trophy in the confection classification of the FINANCIAL WORLD Annual Survey. The final awards of the bronze, silver and gold "Oscar-of-Industry" trophies will be made on Oct. 26 in the Grand Ballroom of the Hotel Statler.

The Pennsylvania Manufacturing Confectioners' Association Annual Production Conference will be held in the Little Theatre of the **Franklin & Marshall College** in Lancaster instead of Lehigh University. A new and extended program is being worked out (with the cooperation of the staff of Franklin & Marshall and its president, Dr. Theodore Distler) which calls for a full time research associate and a number of honor students working full time on candy research. Other students will be available for part-time work. The transfer to the College Little Theatre affords a 250 seating capacity for the lectures and the hotel facilities at the Burnswick Hotel in Lancaster are great enough to include all who attend the convention.

Peter Paul, Inc. of Connecticut will start the "greatest radio and television line-up in the history of the company", **John H. Tatigian,** president, has announced. The schedule, beginning September 1st, and lasting through 39 consecutive weeks, will consist of two- and three-time weekly radio news programs in approximately 160 selected trading areas and 10- and 20-second TV spots in heavy frequency in 15 major markets.

D. A. Schulte, Inc. has signed a contract to purchase the **Stineway Drug Company.** Mr. N. C. Earl, Jr., President of Schulte considers the acquisition of the 36 new units a first step in a major expansion program. Stineway Drug, which does a business in excess of $8,000,000, earned a net profit of $102,000 after taxes in the fiscal year ending April 30. Mr. Earl also stated that Schulte is at present actively negotiating for a second chain in the mid-West. Schulte operates 160 stores in ninety-one cities and last year did a business of over $17,000,000.

Warren A. Ives was elected president and a director of the **Haelan Laboratories, Inc.** of Philadelphia, a chewing gum manufacturer.

Benjamin C. Betner Company and **Shellmar Products Corp.** have been consolidated into the **Continental Can Company's** new **Shellmar Betner Flexible**

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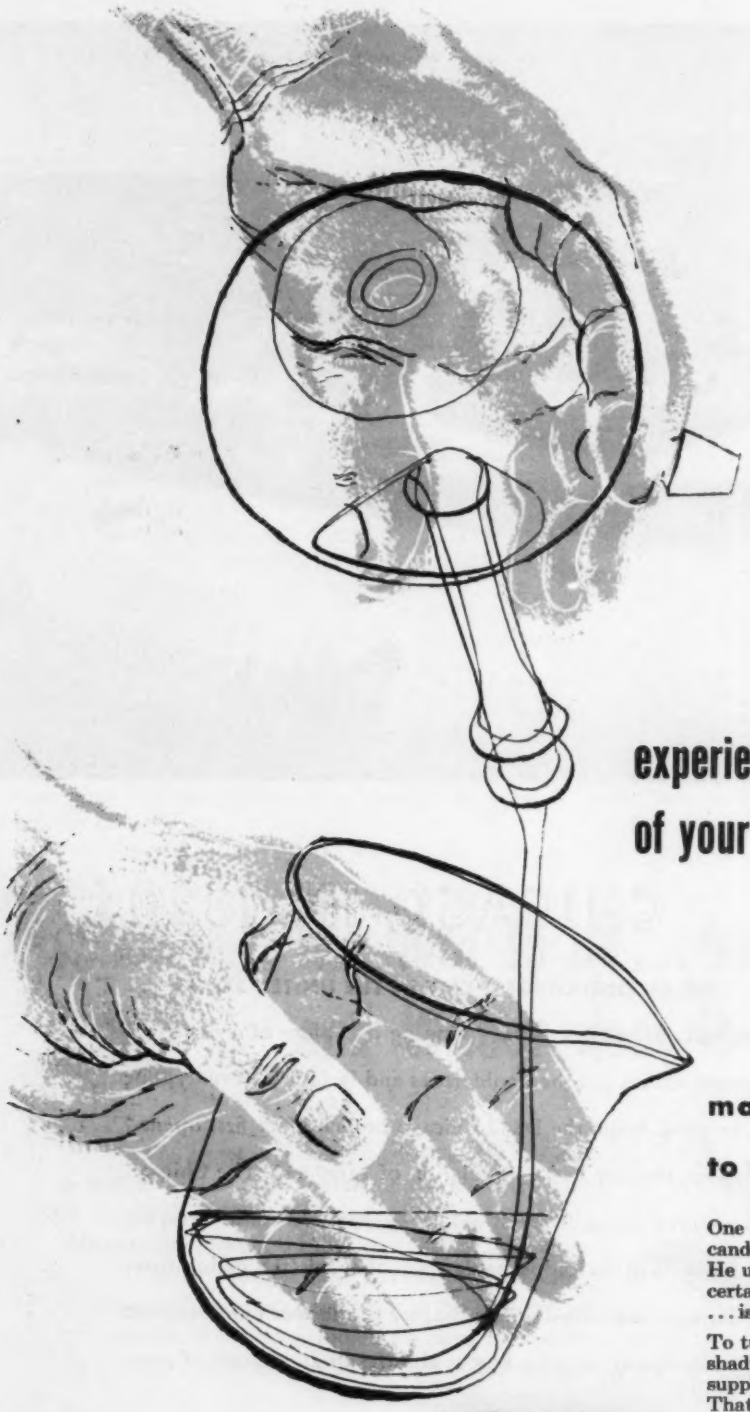

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make it FLAVORABLE

to make it salable

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Packaging Division. The new division will be headed by **Mr. Benjamin C. Betner Jr.** in the former main office of Shellmar, Mt. Vernon, Ohio.

Luden's Inc. of Reading, Pa. sponsors the NBC TV Howdy-Doody Show to advertise their "5th Avenue" candy bar.

Refined Syrups and Sugars, Inc., Yonkers, N. Y. has completed several months negotiations and signed a 10-year lease, with option to purchase, for 210,000 sq. ft. of waterfront property bordering the Refined Syrups plant. **Frederic A. Davidson,** President, has announced. Approximately half of the property extends beyond the shoreline into the Hudson River and is being leased from Sidney Land Industries, Inc. of New York, the present owners. This is the largest land acquisition in the company's modernization and expansion program.

Gold Medal Candy Corporation President Victor A. Bonomo has announced the appointments of **Morton A. Bramson** as comptroller, **Sidney M. Kent** as service manager in charge of purchasing and credit, and **Isadore J. Feitelson** as assistant to Sales Manager Hy Becker.

Spangler Candy Company announces that John "Mickey" McArthur has joined their sales organization in New York State exclusive of the Metropolitan area.

Conventions--Meetings

Sept. 8—Central Pennsylvania Candy Club meeting and party at Lewistown, Pa.

Sept. 10—Metropolitan Candy Brokers Assoc. Inc. monthly meeting at the Hotel Empire, 8 pm, N.Y.C.

Sept. 11—Los Angeles Candy Club regular meeting at Rodger Young Memorial Auditorium.

Sept. 12—Candy Jobbers Banquet at the Chamber of Commerce, Seattle Wash., 6:00 pm.

Sept. 12—Carolina Candy Salesmen's Club Picnic & Outing for members and families at the Drug Travelers' Club on the Catawba River.

Sept. 14—Confectionery Salesmen's Club of Baltimore, Inc. meeting 12:30 pm at Gannons, 3150 Frederick Rd., Baltimore, Md.

Sept. 14—The Candy Production Club of Chicago regular meeting at the Furniture Club of America.

Sept. 14—Confectionery Salesmen's Club of Philadelphia monthly meeting at Longchamps Restaurant—18th & Walnuts, Philadelphia, Pa.

Sept. 19—Great Plains Candy Club meeting at Castle Hotel, Omaha, Nebraska.

Sept. 20-23—Philadelphia Candy Show, Sponsored by the Retail Confectioner's Ass'n. of Philadelphia.

Sept. 22—Candy Square Club meeting at Riverside Plaza Hotel, 253 W. 73rd St., N. Y. C.

Sept. 24—Tidewater Wholesale Candy Club monthly meeting at Norfolk, Va.

Sept. 24-25—Society for Advancement of Management, Joint Industrial Conference. Museum of Science and Industry, Chicago.

Sept. 25—Boston Confectionery Salesmen's Club, Inc. monthly meeting at Hotel Kenmore, Boston, Mass.

Sept. 25—Badger Candy Club monthly meeting at Ambassador Hotel, 23rd & Wisconsin Avenue, Milwaukee at 6:30 pm.

Sept. 25-26—Michigan Tobacco & Candy Distributors Assn. Annual meeting in Hotel Sheraton-Cadillac, Detroit, Mich.

Sept. 29—The Candy Executives and Allied Industries Club Annual Shore Dinner.

Oct. 1-3—Indiana Tobacco & Candy Distributors Assn. Sixth Annual Convention at Hotel Claypool, Indianapolis, Ind.

Oct. 2—St. Louis Candy Sales Assoc. monthly meeting at York Hotel, St. Louis.

Oct. 3—The Northwest Candy Club regular meeting at Grosvenor House, Seattle, Wash., 9:00 am Breakfast.

Oct. 4-8—Advertising Specialty National Assn. Annual Convention and Specialty Fair, Palmer House, Chicago, Illinois.

Oct. 12-14—Packaging Institute, Hotel Statler, New York City.

Oct. 12-18—Sweetest Week in Indiana sponsored by the Indiana Tobacco & Candy Distributors Association.

Oct. 13—Central Pennsylvania Candy Club meeting at York, Pa.

Oct. 18—Industrial Packaging and Materials Handling Exposition, and technical short course, Boston, Mass.

Oct. 19-20—Boston Conference on Distribution, 25th Anniversary Meeting, Hotel Statler, Boston, Mass.

Oct. 27—Association of Consulting Chemist and Chemical Engineers, Belmont Plaza, N. Y.

Nov. 9-12—Refrigeration & Air Conditioning Exposition in Cleveland, Ohio.

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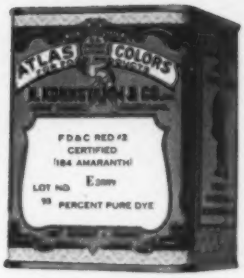

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What is your raw material conversion factor? If you don't know, you are ignoring one of the most potent cost control factors that is available to the executive. This article deals with the importance of this item, and suggests ways that it can be implemented and made a vital factor in your "profit control."

The Plant Manager's Responsibility for the Utilization of Raw Materials

by J. KOCH

GREAT importance is attached by most plant managers to the productivity of labor, man-hours per ton of production sometimes even being regarded as the ultimate measure of plant efficiency. According to a series of articles which appeared in THE MANUFACTURING CONFECTIONER during 1951, however, present labor costs account for only about 15% of the sale price of candy, yet it is well known that the average price of candy doubled in the ten years between 1940 and 1950. The simple and obvious answer is that raw materials rose in price; the plant manager may claim that this has nothing to do with him, being beyond his control, but it does not take much perspicacity to discover that the most efficient plant in the world, measured by the standard of productivity, may still be at a disadvantage by comparison with another, productively somewhat less efficient, but which can get its raw materials a few cents cheaper, or which makes a fuller use of raw material bought at the same price.

We know that raw material costs, in the final analysis, are only wages paid to the man who harvests them from nature, plus wages paid to various middle men who assist them on their journey to the factory gates. The plant manager may certainly rile at the inefficiency or avarice of producers and entrepreneurs and claim that they should manage their businesses as efficiently as he manages his, but that will not necessarily get him very far. A little further thought will show that raw material costs must inevitably gain in significance every time plant efficiency is improved, whatever the level of pricing, and that the greater the efficiency of processing, the nearer will raw material costs approach to 100% of the sale value of the finished article. From the point of view of plant management, however, sales promotion and distribution costs are factors which only cloud the issue. The plant manager is not very directly concerned with the cost of getting the finished article from the factory gate to the pocket of the purchaser, any more than the raw materials producer is concerned with the cost of processing in the factory, so, for plant control purposes, it is preferable to base analyses on the value of candy as if it were to be sold to the sales department, rather than on the ultimate sale price. This basis of value might be called the ex-works value.

Official statistics on the breakdown of ex-works candy prices are not easy to come by, and averages are in any case apt to be misleading, but every individual plant manager will have access to the figures which are appropriate to his plant. Some figure has to be assumed for the purposes of example, however, and I am prepared to guess a typical average breakdown for chocolate goods as being 75% materials cost, 15% labor and 10% overhead (inclusive of factory management, but not sales or distribution overhead). Individual products can vary quite appreciably in the way in which the individual costs are apportioned, but the ratio of materials cost to labor cost is an index which should be in the back of every manager's mind, for it is one of the major factors which shape general policy in processing plant management.

In the example cited, it will be seen that the financial effect of a saving of 5% in labor cost is the same as that of a 1% cut in ingredient cost. It is not usually part of the plant manager's job to buy ingredients, however, and he may well say that that is the buyer's affair. Nevertheless, a plant manager would feel that he had done a really good job if he cut overall labor costs by 5%, especially if he managed it without adding to the overhead in any way. By comparison, a reduction of 1% in ingredient cost

looks easy money, yet there can hardly be a candy plant in which 1% or more of the raw materials bought do not go up the spout or down the drain in one way or another; and that, after all, is the plant manager's responsibility. Full utilization of every scrap of raw material gains in importance every day—the more efficient the plant, the greater the importance—and, in the long run, an index of efficiency of raw materials conversion becomes every bit as significant as an index of productivity. I only intend to deal with the question of direct physical wastage, but it should not be overlooked that efficiency of conversion covers other activities besides, especially the formulation of recipes so as to give the best finished product for the minimum consumption of the more expensive ingredients. Direct wastage is far from easy to determine with certainty; in fact, I would go as far as to say that it is impossible, and that a method of successive approximations is the only one which can give even an approach to the truth. The principal difficulty is that almost every candy mix is subjected to processing in which it gains or loses moisture in a relatively uncontrolled fashion, even by way of casual evaporation or absorption from the atmosphere. Many raw materials also vary in composition, and many contain valueless impurities (e.g. dust, shell, foreign matter, excess moisture etc.) which have to be extracted and thrown away. If cocoa powder is manufactured in the same plant as candy, the position is even worse, for cocoa butter is produced as a by-product and, like the water in the taps over the boiling pans, it usually finds its way into mixes without passing through the ingredient control point at the factory gates.

The only method I have found really to work is to take inventory of the complete stock in process on a given date, add to it all the shipments since the last inventory, deduct the stock in process at the last inventory and deduct all returns of finished goods from outside the factory during the same period. Then, using the same figures as are used by the costing section, calculate out the quantities of raw materials which are theoretically required to give this yield. Comparison of these figures with the quantities of raw materials invoiced into the factory during this period will then show what quantities of which materials have actually gone adrift during the period. Anyone who has never tried this method of analysis before will almost certainly be appalled by the discrepancies revealed; if he is of a hasty temperament, heads will probably roll in all directions, though usually unjustifiably.

The first point to remember is that the result given by this analysis is not a true measure of the physical wastage, but, let there be no mistake about it, it is nevertheless a true measure of the money which has gone adrift, and that, after all, is the ultimate goal. As a general rule, incorrect cost sheets will be found to be at the bottom of many of the discrepancies, rather than actual physical losses, though some of these will eventually come to light as the analysis is shaped and re-shaped in an effort to bring theory and practice into closer correlation.

The initial analysis may be somewhat laborious, but it can be speeded up a great deal if the relative data is always included when a cost sheet is made out and if a suitable register of ingredient deliveries is kept. The real labor does not start until it comes to explaining away the discrepancies and trying to prevent their recurring the next time, and it is this process of detailed cross checking which gives the plant manager a chance to assess the real value of the various production checks and quality control measures in operation in his plant. These checks are not supplanted by the overall check; on the contrary, they are found to be essential tools with which to narrow down the search for missing ingredients and the usual outcome is a complete revision and re-integration of the detailed daily checks taken in both workroom and laboratory.

As anyone who has made a serious attempt to apply this style of overall check will know, there are many pitfalls; lines which habitually utilize waste material from some other process, for instance, or determination of the true average composition of raw materials which vary in composition. All is included in the overall check—theft, spillage, weight errors in deliveries of raw materials or dispatches of finished goods, deviations from specification in blending or processing, unappreciated process losses and so on—and too much importance should not be attached to the results of a single analysis, as there are actually a very large number of sources of loss or gain which can combine to give a misleading impression of where the true losses lie. With persistence, however, and with regular repetition of the analysis for consecutive production periods, an excellent measure of the efficiency of materials conversion eventually emerges. The detailed checks taken at every stage of production all contribute to the final evaluation of the effects shown up by the overall check and many new checks will probably have to be devised in order to explain or correct the more unexpected losses or gain which appear. They can never of themselves replace the overall check, however, for detailed checks can only be devised to control expected sources of variation, whereas it is the unexpected which invariably comes to light as a result of this style of checking.

I have described the system as one of successive approximations, and it is true that an absolutely correct analysis will probably never be achieved. It is also true that the method does not, of itself, tell whether individual process losses are reasonable or not; it merely indicates any lack of self consistency between one set of figures and another. The results show where to start the search for missing ingredients, but they do not necessarily say where it will end; they also tell at a glance what expenditure it is worth incurring in an effort to improve matters.

As the process is repeated, the picture will get ever clearer, and anv variations in returns between one period and another will give an enterprising manager clues as to where the danger spots lie, or which part of the production is not giving consistent figures: these are the places where a detailed investigation on the spot, using every conceivable form of cross check, will usually open the way to an improvement in technique which can stabilize conversion efficiency at the level of the most favorable figure.

In theory, the plant manager should ultimately be left with a residue of minor uncertainties which it is uneconomic to pursue further, but I have yet to meet the candy factory where development had stagnated to this extent. In the live candy plant, new lines are always com-

ing forward and the pattern of marketing is changing with the times; this may complicate the issues, but provided such development is foreseen and allowed for when the details of the checking system are first thought out, there is no real reason why it should be allowed to defeat the ends of the overall check.

To be able to assess the order of loss remaining unaccounted is in itself a great step forward from the old spot checks, which covered bits and pieces of the production very effectively, but which could give no real indication of the balance of the whole. To maintain, in addition, a running check on process loss, which will eventually bring to light all fluctuations, whether for better or for worse, is to possess an efficiency meter of outstanding value. The indications given by this meter are daily gaining in importance and will probably continue to gain in importance, whatever happens to prices in the world's produce markets. It is often a difficult meter to install satisfactorily, and it may well prove impossible to read its indications correctly until it has been functioning for some time; nevertheless, it appears to be the only one which can do the job properly and it would be a foolish manager to put off mastering its intricacies until it was too late. The losses of raw materials in candy factories are commonly small, but they are more than many people suppose; they are often hard to track down, but today's position is such that small gains in total yield are the equivalent of major economies in other fields.

*'Profits Through Cost Control' by Frank Buese, The Manufacturing Confectioner, Aug., 1951.

'Material Losses vs. Profits' by Frank Buese, The Manufacturing Confectioner, Nov., 1951.

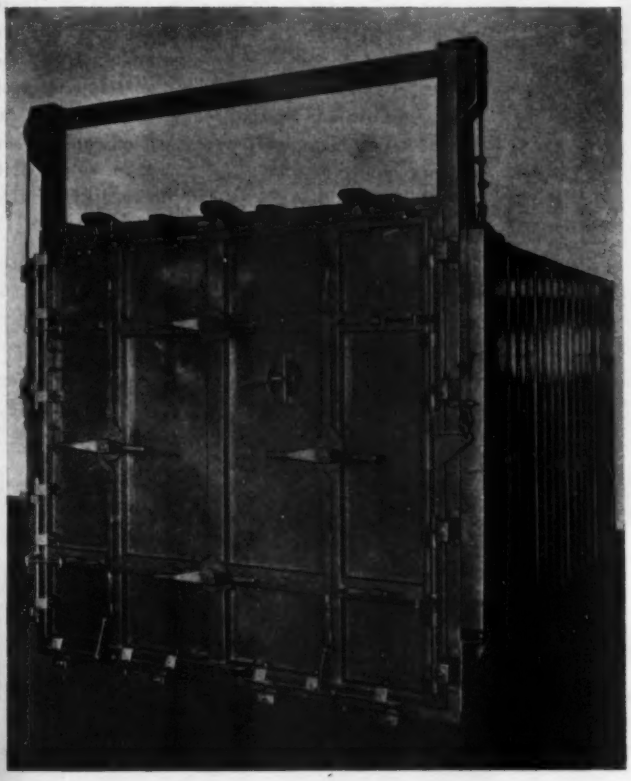
'Labor Costs and Profits' by Frank Buese, The Manufacturing Confectioner, Dec., 1951.

THE END

The Manufacturing Confectioner, of course.

SEPTEMBER, 1953

Candy Equipment PREVIEW



The DOCONA FUMIGATION CHAMBER is an important sanitation supplement.

Keeps infestation out.

Fumigation kills larvae, eggs, and insects buried in boxes or bags of nuts and coating.

Fumigation is a positive preventative

Simple, safe & foolproof operation.

The DOCONA FUMIGATION CHAMBER is a self-contained unit that can be safely used with any acceptable gas.

- All steel construction
- Completely gas tight operation
- Built-in circulating and exhaust system.
- Complete with gas injector system, etc.
- Low operating cost—less than a dollar per 5000 pounds.
- Approved by local and federal health authorities.

A POSITIVE "IN-THE-PLANT" CONTROL OF RAW MATERIALS

Exclusive representative:

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152 West 42nd Street **New York 36, N. Y.**

new help to sanitation in candy making . . .

GROEN STAINLESS STEEL STEAM JACKETED VACUUM PANS

OTHER GROEN CANDY PLANT EQUIPMENT

Model NRP-38
STEAM JACKETED
REVOLVING PANS
Model RP-38

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AGITATOR KETTLES
Model TA Twin Shaft
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Model AED—Electric
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Model N Kettle

Either Model can be fitted with our Model RA or TA Heavy Duty Agitators

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GENERAL-PURPOSE VACUUM KETTLE

A stationary steam jacketed vacuum cooking kettle intended for general purpose use for fast removal of moisture at low temperature. Excellent craftsmanship and material typical of all GROEN-built units... with thorough sanitation a foremost consideration. A strikingly handsome unit; and its performance is in harmony with its fine appearance.

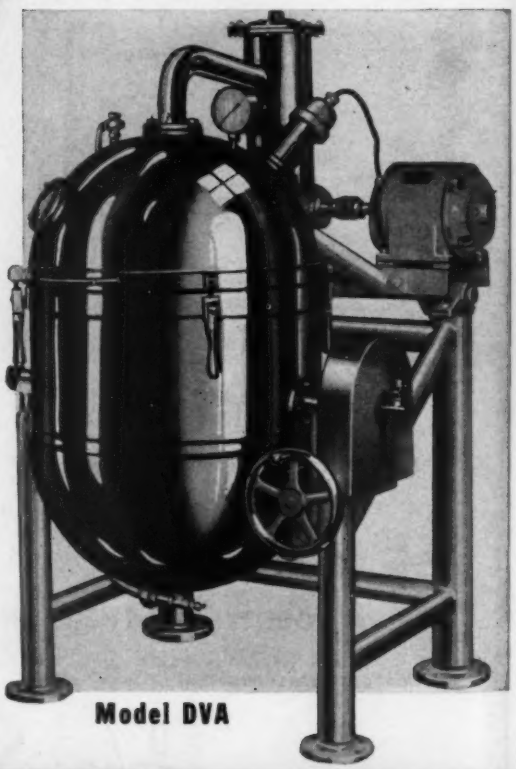
TILTING VACUUM KETTLE

Model DVA, shown at right, is a tilting-type special purpose vacuum cooking unit. Modern sanitary design throughout Note the clean-cut, streamlined appearance. Observe the open, unhindered accessibility around and under the unit. Nothing to impede easy cleaning. Everything to simplify complete compliance with the most rigid sanitary codes.

GET DETAILS. WRITE FOR BULLETIN VP-1

There's half-a-century of experience built into these vacuum kettles. That's why they are both sanitary and efficient to the highest degree . . . with the inherent strength and durability of stainless steel. Used extensively in making many of America's most famous candy brands. Modern, streamlined, uncomplicated in design . . . COMPLYING WITH THE MOST RIGID HEALTH DEPT. REQUIREMENTS, and with today's ideas in candy plant sanitation.

Check into these fine units immediately. See how a GROEN Vacuum Kettle can improve your manufacturing processes. Our new Bulletin VP-1 contains facts and figures that will interest you. Why not write for it now?



Model DVA

GROEN MFG. CO., 4529 W. ARMITAGE AVE., CHICAGO, ILL.
WORLD'S LARGEST PRODUCERS OF STAINLESS STEEL STEAM JACKETED KETTLES

THE OLD. . . with the former open kettle method, excess water (about 60 lbs. per 100 lbs. of finished confection) was evaporated by boiling. The starch jelly had to be dried in hot rooms for several days after molding. A large amount of floor space was required with slow production.

THE NEW. . . floor space savings of 65% are realized by cooking in seconds with VOTATOR Heat-exchange Apparatus. About $45 per day is saved in fuel, starch tray inventory is reduced 60 to 75%, maintenance and handling costs are cut with continuous processing.

SEND FOR BOOKLET—New booklet containing text of three papers on Cooking Starch Jellies Continuously. Write for free copy today. The Girdler Company, Votator Division, Louisville 1, Kentucky. District offices: New York, Atlanta, Chicago, San Francisco.

New process improves jelly quality

VOTATOR* Continuous Processing Apparatus cooks automatically in seconds, eliminates excess water

CONTINUOUS COOKING of starch jellies has revolutionized production at Charms Company, improving clarity and uniformity of the product, eliminating caramelization and the usual hard skin, and drastically cutting costs. The process was developed by engineers of The Girdler Company, with the technical assistance of National Starch Products, Inc.

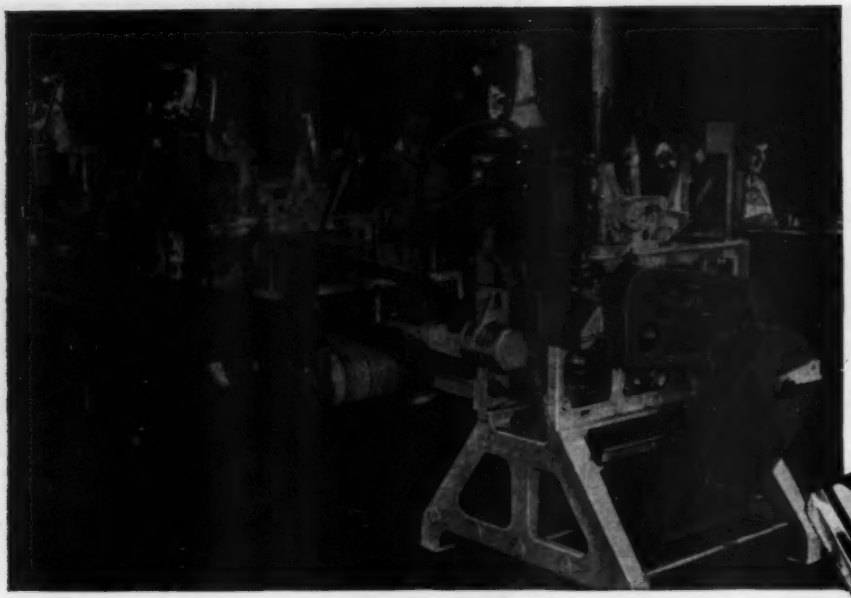
VOTATOR Heat-transfer Apparatus cooks the starch *in seconds,* with exactly the right amount of moisture required for the finished jelly. The continuous, automatic system assures uniformity.

Girdler's research and development department is well equipped to assist you in applying continuous processing to your production. Call on Girdler for complete process design, engineering, and construction service.

*VOTATOR—Trade Mark Reg. U.S. Pat. Off.

The GIRDLER Company

A DIVISION OF NATIONAL CYLINDER GAS COMPANY



A battery of three CA-2 machines in plant of The Nestle Company, Inc.

High-speed low-cost wrapping

PLUS UTMOST SALES APPEAL

Rugged and versatile, the CA-2 is ideal for chocolate bars and other types of candy. Can enclose rectangular items that have square or beveled edges in a tight, single wrap of cellophane, glassine, waxed paper or similar material. It also does combination-type wrapping. For example, an inner wrap of foil or glassine can be applied with an outer printed band or overall wrapper. Equipped with automatic card feed, if desired. Printed material can be roll-fed and registered by electric eye. Wraps at speeds of from 80 to 150 a minute.

One demonstration of the CA-2's versatility is the wrap it makes for Kraft caramels. It wraps the caramels so tightly that no cardboard is required. Easy-opening tape is included in the cellophane wrap—placed near one end of the package so caramels can be removed without destroying the entire wrap.

Model CA-2 is easily adjustable within the following size range: 1-3/8" x 3/4" x 1/16" to 6" x 2-1/4" x 3/4".

6 caramels wrapped without cardboard in registered printed cellophane with easy-opening tape.

Get complete information on the Model CA-2. Write to us today.

PACKAGE MACHINERY COMPANY
SPRINGFIELD, MASSACHUSETTS

NEW YORK CHICAGO BOSTON CLEVELAND ATLANTA DALLAS
DENVER LOS ANGELES SAN FRANCISCO SEATTLE TORONTO MEXICO, D.F.

Good machinery sanitation starts with machinery design. A machine that is hard to clean, and to keep clean, is an expensive machine to operate. As these two principles are acknowledged and accepted by management, the job of candy plant sanitation will be easier, and a better product will be made. Some of the principles of machinery design along good sanitary lines are discussed in this article, which is must reading for all machinery buyers, and those who influence machinery design.

SANITARY EQUIPMENT DESIGN

by FRED B. JACOBSON
Plant Sanitarian
Stephen F. Whitman & Sons, Inc.

THE confectioner is beset by varied problems of sanitation. Many of these problems stem from the fact that the basic design of his machinery has been made with the end in view of production and with very little regard for the problem of sanitation and sanitary maintenance.

The problem of the manufacturer is that production machinery must be designed for maximum production efficiency. However, in order to achieve efficient production, he must also be concerned with the principles of maintenance and sanitation.

The dairy industry has for some time, due to the extremely perishable nature of its raw material, recognized these principles and they are, in all probability, far ahead of other food industries in their application of sanitary principles to machinery and equipment design.

Design and construction of equipment should consist of: the plant premises itself, which includes such construction as walls, ceilings, floors, window sills, lighting, plumbing, ventilation, refrigeration and hot rooms. Though this is not an all-inclusive list, the approach should emphasize easy accessability for cleaning, and once these parts are made accessible, the actual ease of cleaning.

The principles of sanitary design are basic for all types of food-processing equipment. For example, the design of a fruit comminuting machine might find its parallel in the preserve industry, in the canning industry or in a score of other branches of the food industry. The essential principles of sanitary construction are universal.

Consider some of these basic principles of equipment design and construction: Equipment should be constructed of impervious non-corrosive and non-toxic metals. If food is acid in character, some lead may be dissolved and cause lead poisoning. Antimony is a pigment of cheap enamel-lined utensils and these, if chipped and in contact with acid foods, may cause illness. Cadmium is a

poisonous metal which has, in the past, been used as a coating material in place of tin. As little as 15 parts per million of this material can cause illness. Zinc poisoning may occur if galvanized plated containers should be used for the storage or cooking of foods.

It is recommended that within the food product zone, highly polished corrosion-resistant stainless steel be used. White, bronze or nickel alloys are recommended also, so long as they are free of lead or cadmium. Metals used should be able to resist abrasion during ordinary processing. Copper and its alloys are widely used within the confectionery industry. However, these copper metals under some conditions have the characteristic of imparting off flavors to certain food stuffs. They are also susceptible to corrosion. While aluminum and its alloys are often used in food handling equipment, it should be noted that they are easily pitted; being attacked by acids, alkalis and salts. Tin is excellent as a plating metal, but it is not very durable as a base metal.

Silver solder consists mainly of silver, copper and zinc and is acceptable as a space filler within the food product zone. However, any solder containing over 5 per cent of lead should never be used in this area. Solders containing cadmium or large proportions of lead or antimony are also unacceptable as they impart harmful or toxic compounds to the foods.

It is interesting to note some toxic limits of metals which were established as far back as 18 years ago. These are not to be considered as definitive of toxic limits, but merely as illustrative.

Metals	Parts per million
lead	2
copper	15
nickel	5
arsenic	2
tin	300
zinc	100

Iron, manganese and aluminum are not here regarded as toxic.

A number of methods have been developed to determine the amount of metal contamination in food stuffs. A start in this direction may be obtained by referring to the Methods of Analysis of the Association of Official Agricultural Chemists.

If there is any question as to whether or not a particular metal should or should not be used, the safest thing is to check with the machinery manufacturer and with the Food and Drug Administration, as well as checking any local ordinances.

Presently, a great deal of work is being done with synthetic resinous coatings on food equipment surfaces. Much research is going into this problem, but there is some question as to the toxicity of the coatings, and before these coatings are used, the purchaser should check with the manufacturer and the Food and Drug Administration as to its practicability.

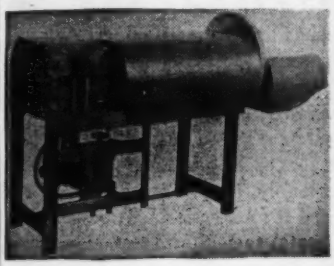
Plastics of some types and synthetic rubber have, from time to time, been used as supplements or integral parts of food manufacturing machinery. Usually, if they are able to do the production job, they will be acceptable for use in food manufacturing. However, they should be non-toxic, free of odor, free of phenol and formaldehyde and be capable of resisting the action of fats, acids, oils and alkalis. They should not be used where there

(Advertisement)

Stick Candy Machine Turns Out 100 to 300 Sticks A Minute

The Racine Confectioners' Machinery Co. is producing a machine which will handle solid sticks, clear or pulled, as well as sticks with honey-combed centers. Called the Racine Stick Candy Machine, it sizes, twists, and cuts the sticks of any diameter and length.

Requiring only one operator to feed the machine from a batch roller or flat board, the machine sizes, twists and cuts automatically.

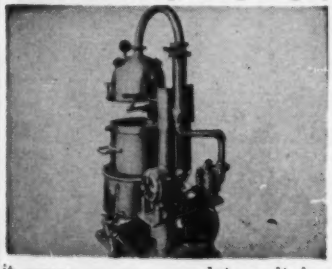


The operating speed is controlled by a variable speed transmission. Capacity is from 300 to 900 inches per minute. It can turn out 300 one-inch sticks or 100 nine-inch sticks per minute.

Complete information is available from Racine Confectioners' Machinery Co., 15 Park Row, New York 38, N. Y.

No Steam? This Gas Vacuum Cooker Does The Job

The type G-2 Simplex Gas Vacuum Cooker shown here is well suited to plants not having facilities for steam. Operating on gas,



it comes as one complete unit including vacuum pump and motor, vacuum gauge, gas-fired furnace blower and motor.

With a cooker capacity of from 25 to 100 pounds per batch, the machine is designed for efficient, economical production of fruit drops, stick candies, lolly pops and other types of hard candies as well as quicker cooling of fondant syrup.

Requiring no mechanical knowledge or skill to operate, it has a production capacity of more than 1,500 pounds of candy in 8 hours with one pre-melting kettle. With 2 or more pre-melting kettles production can be increased to more than 3,000 pounds.

Additional information is available from Vacuum Candy Machinery Co., 15 Park Row, New York 38, N. Y.

THE RACINE BANTAM DEPOSITOR

for depositing any kind, size or shape

Here's the Bantam Depositor, the newest addition to the famous Racine Depositor family. Its 6" size brings the advantages of the larger 48" (Jumbo) 32" (Senior) and 16" (Junior) Depositors within the range and requirements of any shop.

The Bantam Depositor is perfect for creams, mint or chocolate patties, cocoanut kisses, pralines, mounds or bars, maple moulded creams, gum drops, marshmallow or nougat pieces, chocolate bars, kisses, miniature and large bits, stars, leafs, wafers, nonpareils, etc.

Deposits can be made with or without small or chopped nuts, fruits, etc., making deposits in all types of molds, foil or paper cups, or direct on trays, plaques or belts.

Electric motors and variable speedcontrols permit nominal or maximum production as desired. Main drive electric motor and electric water circulating pump operate from any light circuit. No other connection is necessary.

Write today for complete details.

VACUUM CANDY MACHINERY CO. **V R** **RACINE CONFECTIONERS' MACHINERY CO.**

15 PARK ROW, NEW YORK 38, N. Y.

Western Office and Factory: Racine, Wis. • Eastern Factory: Harrison, N. J.

is any possibility of their breaking down.

Some of the newer plastic coatings, such as "Teflon" have shown extremely desirable characteristics. In spite of their high price, indications are that the use of these plastics will be greatly extended in the food industry. The coatings show indications of no toxic effects after application, extreme resistance to acids and alkalis, a non-sticking surface, no odor, resistance to chlorine and high heat, and so on. This material is now being used widely for gasketing, pan coating and other such specialized uses.

While most common in the food industry, wood is one of the least acceptable of materials. It presents a problem in cleaning as well as a ready haven for bacteria, wild yeast, mold and insects. Material other than metals, such as linoleum and plastic surfaces, should be looked on with suspicion, and a thorough investigation should be carried on before using. Painted surfaces are unfortunately too common, and more unfortunately, too dangerous for use with the food product zone. They are porous and likely to dissolve or peel into the food, resulting in a contaminated finished product.

We shall now discuss the problem of the design of simple hand equipment, which covers those items which are not power-driven or not anchored to a particular area, considering first, hand tools such as knives, scrapers, dippers, etc. Tools of this nature should be made with one piece handles, allowing for easy cleaning and free of any open seams and ridges. A wooden handled mixer, for example, is a difficult tool to clean, as pieces of fruit or fondant might get into the open seams and thus contaminate the next batches. Shovels used partly for the transfer of food stuffs from pots or troughs to mixers and kettles should be made of stainless steel or other metals impervious to corrosion and non-toxic in nature. These, too, should not have open seams and any welded seams should be smoothed out. Where the shovel is made of metal other than stainless steel, it should be coated with pure tin. In this manner, corrosion and rust spots can be avoided and the tools can easily be kept clean.

Pails used in processing should be seamless and made preferably of stainless steel or other non-corrosive and non-toxic metal. This sanitary principle should be considered in the design of troughs and trucks used for transporting food stuffs such as fondant, fruits, and the like.

Tables and work benches are prime offenders of sanitary principles in many food processing establishments. The most preferable type of table is one of all metal construction, with all smooth-welded joints and no cracks or corners to allow food stuffs to accumulate. The old type wooden table, with its cracks and crevices is almost impossible to clean adequately, and is a sure retreat for many insects, bacteria, and for wild yeasts. Tubular metal is often the preferable metal to use for legs as it gives the greatest accessibility for cleaning and provides no hiding places for insect pests.

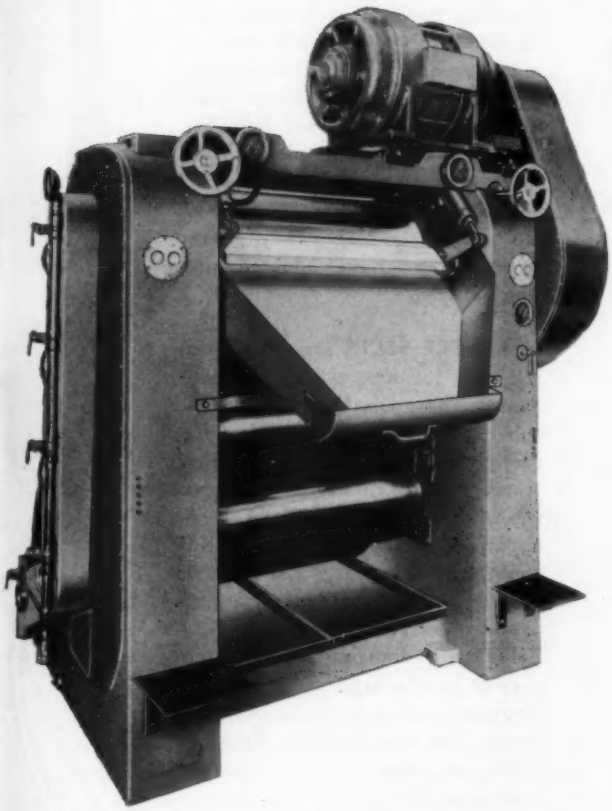
Now, let us go to the problem of the design of power equipment.

One of the problems seemingly present in all manufacturing plants is the machine which has been placed directly on the floor and where the base of the machine

(*Continued on page* 36)

A "STRONG CASH POSITION"

does not always indicate STRONG MANAGEMENT



Model 651-CV Chocolate Refiner with Sight-O-Matic Control. Smaller models, down to laboratory sizes also available.

A "strong cash position" is only an accounting fetish, if it results from fear of taking normal business risks. Efficient machinery, turning out product at low cost, is a better asset than idle cash.

A profitable asset for chocolate manufacturers is the Lehmann Model 651-CV Chocolate Refiner with Sight-O-Matic* Control, which substantially reduces labor time per pound of chocolate. By decreasing the human element in chocolate refining, it increases the output and produces a better chocolate without depending too much upon the skill of the worker.

Write or telephone us for further information as to how Sight-O-Matic Chocolate Refiners can reduce your production costs.

If you intend building a new plant or renovating an old one, talk to us first. Our engineers are experienced in designing plant layouts for cocoa bean processing that have effected major production economies.

*Reg. U.S. Pat. Off.

LEHMANN®

J. M. LEHMANN COMPANY, Inc.

MAIN OFFICE AND FACTORY: 546 NEW YORK AVE., LYNDHURST, N. J.

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HI-GLOSS No. 3 BELTS, for example . . . the plastic Cooling Tunnel Belts which put glossy, mirror-like bottoms on your chocolates. Your product will wear that "Quality" look which means so much to sales—and you get outstanding production benefits, too. HI-GLOSS No. 3 won't crack—won't peel. It won't wrinkle either—you can count on longer belt life. It's a more sanitary Belt, because its plastic top cleans in a jiffy. And it's easy to splice—can be run immediately after splicing! No wonder leading candy plants everywhere have adopted this unique Belt!

HI-LUSTRE BELTS are the proper selection for heavy-duty requirements. These *Double-Texture* Enrober Cooling Tunnel Belts are really built to "take it". They stand up indefinitely even under the most demanding day-in, day-out operation. Available in White, Green or Black, their fine texture and specially developed coatings prevent marred goods. Yes—HI-LUSTRE Belts are the positive answer to the high cost of over-frequent shut-downs and replacements. Just the thing for Packing Table use, too.

VOSS ALSO SUPPLIES

Endless Bottomer and Feed Belts—White Neoprene treated, or plain . . . Packing Table Belting—plain or treated with smooth white flexible coating . . . Caramel Cutter Boards . . . Batch Roller Belting . . . Wire Belting—for enrobers and special conveyors . . . Corrugated Rubber Pulley Covers . . . Canvas Specialties . . . and all your other Belting needs.

VOSS BELTING & SPECIALTY CO.

5647 N. RAVENSWOOD AVE., CHICAGO 26 . . . 118 E. 28th St., New York 16
92 Waterhouse Rd., Belmont 78, Mass.

There probably are few materials as difficult to make and to handle as hard candy, and therefore, as tricky to fit into a mass production line. This story describes the method which is used at F & F Laboratories to produce their candy, with well over 80 percent sugar.

Cooking and Forming Hard Candy At F & F Laboratories

by STANLEY ALLURED, *editor*

WHEN F & F Laboratories decided to go into the hard candy business about eight years ago, they were determined to have the most modern and efficient plant that could be built. This decision is evident in the choice of equipment and its layout in the cooking room. The emphasis is on automatic control of cooking process as much as is practical. The capacity of this room is about three thousand pounds per hour on continuous operation. When operating at this capacity, there are nine men and four girls working. The best example of efficient operation is the robotizing of the pre-cooking, and raw material delivery. The pre-cook operator has at his fingertips the controls for all raw material delivery and mixing, and dials which show the temperatures in all kettles. There are also controls for the holding tank pump which delivers the batch to the continuous cooker. There is an ingenious indicating light arrangement which tells the operator when the pan is raised to the vacuum cooker, therefore, when to start the pump which delivers the batch from the holding tank to the upper kettle of the cooker.

Specifically, the controls are: a recording and controling thermometer on the nal cook kettle, a steam pressure gauge, steam valves for the two pre-cook kettles, temperature indicators for the two pre-cook kettles, separate flow meters for the water and corn syrup lines, steam valve for the continuous cooker for emergency hand operation, switches for the precook agitators, switch for the holding tank pump, signal light for the vacuum pan, and control panel for the bulk sugar weighing and delivery system.

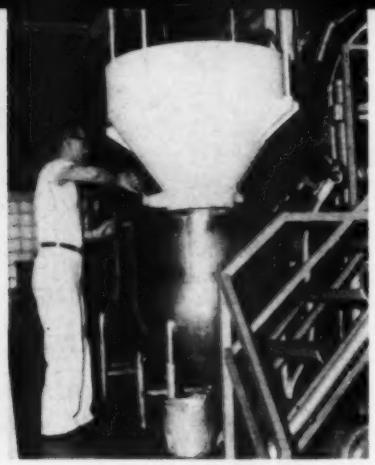
These controls make the pre-cook operator the key operator who regulates the cycle of cooking for the entire operation.

The operator of the vacuum cooker is assisted by two men who also operate the batch mixers.

One complete line consists of two pre-cook kettles, one continuous vacuum cooker, two batch mixers, two cutting tables and two batch rollers and spinners. There are two of these lines in this room. One man handles all four of the pre-cook kettles. There is one man on each of the vacuum cookers, who is assisted by two other men. One man works each of the four batch mixers and takes the batch through to the batch roller.

The efficiency of a hard candy production line is very closely related to the percent of sugar in the candy. A candy of the order of 60 sugar, 40 corn syrup is conconsiderably easier to manufacture and can be made faster and with less labor cost than a candy with a higher percentage of sugar. F & F produces a candy with a high sugar percentage, and is probably set up as efficiently for this type product as any plant in the country.

THIS automatic sugar conveying and weighing system delivers a set weight of sugar directly into the cooking kettles. Bagged sugar is dumped into a large bin. A bucket elevator raises it to the cooking floor, and a screw conveyor carries it to the hopper. A predetermined weight is set on the scale, and when the operator pushes a button, the automatic feed starts and continues until it is shut off by the scale.



THE operator is here emptying the sugar hopper into one of the pre-cook kettles. The hopper is brought to any one of these kettles by pushbutton control.

THIS view shows the four pre-cook kettles. These are equipped with covers, and lightening type mixers.

The panel is at the up contro kettles. These kettles are w bal syrup flows from them by to t on the floor below.

THIS panel controls t ook k ternately feed one con cooker meters shown, which n he wa

Sugar weighing and delivery system—*Baker Perkins*

Pre-cook kettles—*Savage Brothers Company*

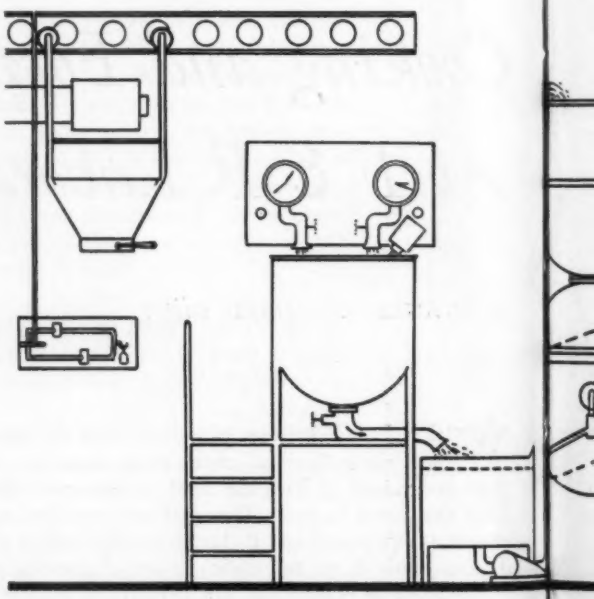
Vacuum cooker—*Hohberger Manufacturing Company*

Batch Mixers—*Berks Manufacturing Company*

Batch rollers and spinners—*Baker Perkins*

Automatic Temperature Controller—*Taylor Instrument Company*

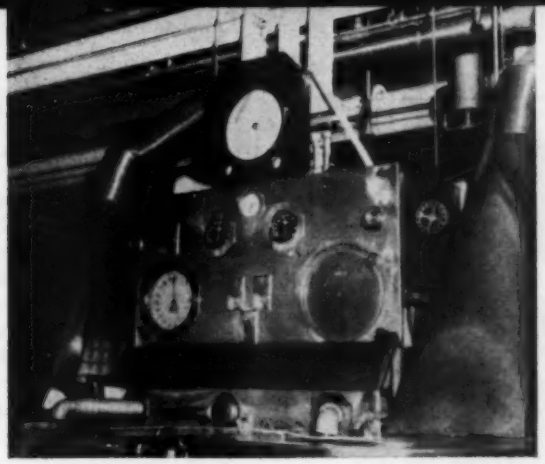
Die Machines—*Baker Perkins*

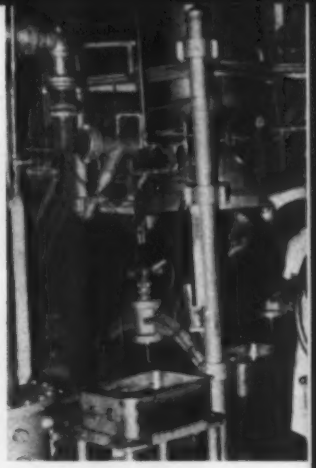


THESE racks of color and flavor containers are in the cooking room. These plastic containers are filled in the laboratory, and each one contains just enough to color and flavor one batch on the mixer.

THIS batch mixer mixes color and flavor into one half of the continuous cooker batch. Two of these mixers easily handle the output of the cooker. Scrap can also be worked into the candy on this mixer.

WHEN the batch comes from the mixer, shown on the left, it is placed on the stainless steel table in the center and cut in two. Es are dropped into the verti n roll All of this handling is done m The two men who tak ndy f continue thru until it is wo ba





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controls took kettles, which al-
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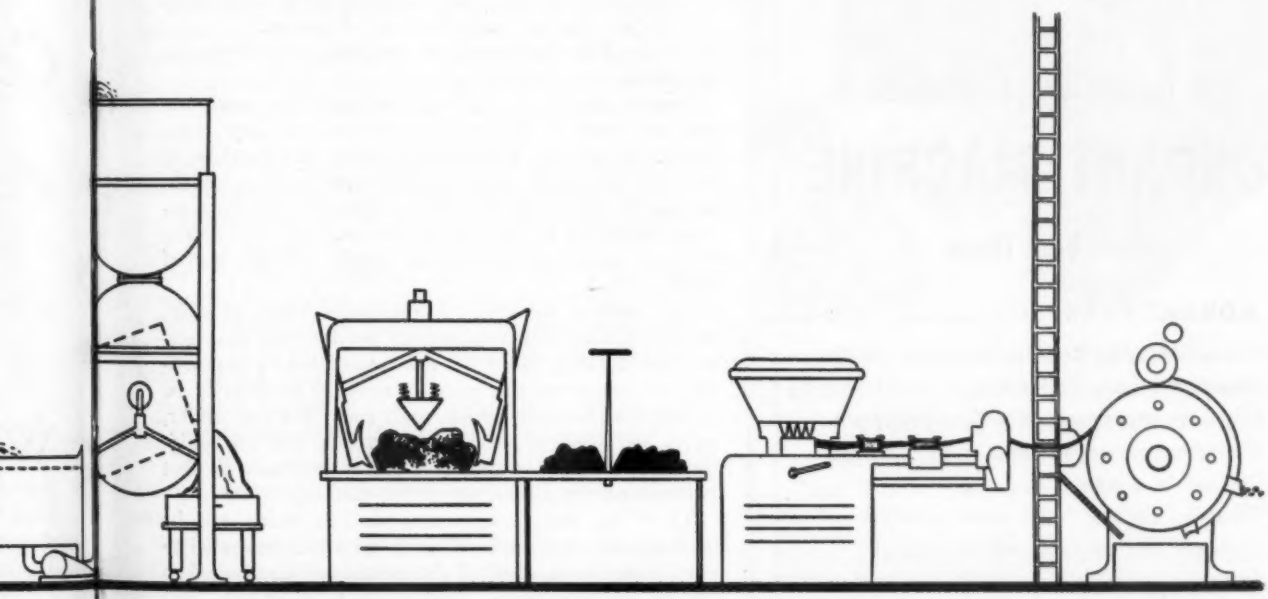
n, which re the water and the corn

syrup-invert sugar mixture. The two small dials register the temperature in the kettles. The temperature recording and regulating instrumnt on the top of the panel controls the final cook in the continuous cooker.

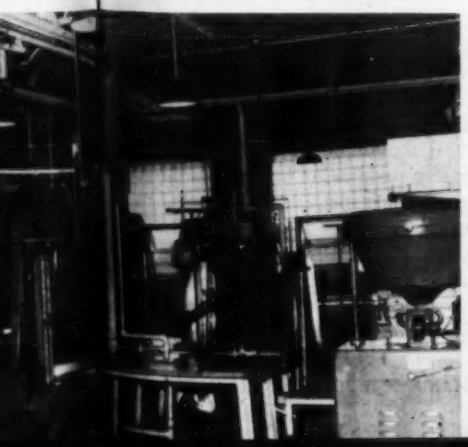
THIS is the continuous cooker, just as a finished batch is being taken out. The final cook is reached in the kettle at the top, and the vacuum is pulled as the batch falls into the bottom section. The batch is weighed out into two equal parts, and taken to two batch mixers. Two men operate this cooker and also tend the batch mixers. An interesting innovation is the glass elbow in the vacuum line, which shows if any candy is being pulled up.

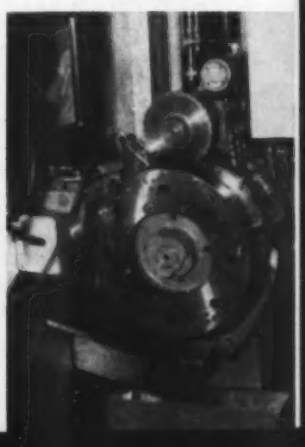


ut in two. Tes are then folden and
o the vertion roller and spinner.
handling is done man on each line.
en who takndy from the cooker,
u until it is wo batch spinners.

THIS spinner spins the batch out into a rope for the die machine, which is in the room beyond the wall. This is practically an automatic operation, though the operator is necessary when there is some small amount of variation in the candy.

THIS die machine is in the air-conditioned cooling and packaging room. The operator of the spinner can be seen in the cooking room through the window at the upper left.





(*Continued from page* 30)

is flush to the floor, providing no way of getting under the machine to clean.

Castings with solid feet and hold down bolts on the outside provide an easily reached area for cleaning. Frames of machinery should be made without crevices and gussets where pockets can be formed which would prevent easy cleaning. A few simple rules may be followed in designing the base of machinery.

1. all open holes should be sealed.
2. avoid internal flanges and corners awkward to clean.
3. raise base of machine a minimum of 6 to 8 inches from floor.
4. avoid sharp corners or crevices.
5. where ever possible use sealed tubular supports.
6. keep machinery well enough away from walls to provide access behind machinery for cleaning.
7. have machine fastened to floor with bobbin shaped supports or other supports which will provide a cove corner with floor.
8. keep motors and pumps at least 12 to 14 inches off the floor so water can be freely used in cleaning. If possible, provide splash proof motors.

Moving a little further up the machine, we will discuss the motors and guards.

Guards should be made so that they are easily removeable and, if the area is protected, an open space should be provided underneath to allow any particles of food to fall on the floor. Switches and conduit should be placed away from the wall to prevent dirt from accumulating and to allow space for cleaning. This is true of pipes, cable and wires which should also be clear of walls.

Any parts of machinery or conveyors, where possible, should be made with wing nuts to provide easy disassembly and cleaning. Since this may sometimes be impractical, it is suggested that persons assigned to cleaning be provided with small, simple tools such as screw driver, pliers and small adjustable end wrench, and all equipment be designed so that these three tools are all that is necessary for disassembling for cleaning.

There are many engineering devices which can be used in order to permit relatively unskilled personnel to participate in this task of disassembling. These devices include sanitary thread, bayonet joints, wing nuts, and other similar devices. Cotter pins, Allen nuts, socket head screws, etc. should be avoided wherever possible.

The equipment itself within the product zone "should be continuous, without sharp corners, breaks, seams or dead ends." Any joining of metals should be done by sealing or soldering rather than by overlapping.

Shaft bearings are undesirable generally in the product zone but occasionally they are necessary to the design. If they are necessary, they should be of the type that will allow easy removal, and will seal to prevent food material from seeping into the space between bearing and housing. A sanitary seal should be used.

It is preferable that agitator paddles or blades should be removable for cleaning and inspection. Suspended agitators are much to be preferred as they are easily removable and stuffing boxes can be eliminated. Where stuffing boxes are necessary, properly designed rotary seals should be used. All pipe fittings and valves except the high pressure type should be of the standard sanitary

type used in the dairy industry, commonly known as sanitary fittings.

In the confectionery industry, we have certain special problems such as coolers and cooling tunnels. These should be built in such a way that the sides can be taken off easily and the insides cleaned thoroughly. Flat surfaces should be used without leaves or crevices. Other types of enclosed conveyors should also follow these principles. Wherever possible, clean out plates should be provided if the machine itself cannot readily be disassembled.

We should like to go into the history of the design of one piece of equipment used in confectionery plants as an example of what can be done with a serious problem, and where the machinery manufacturer and the food processor were both interested in solving it.

As every confectionery manufacturer is well aware, one of the most difficult machines to keep clean and free of insect infestation is the nut grinding or breaking machine. This particular machine as conventionally built, is composed of a hopper which is an integral part of the machine. Immediately under the hopper are usually two wedges of wood which act as a chute for the nuts to a channel. This channel guides the nut meats between two oppositely rotating gears with teeth, which act as crushers of the nuts. The crushed nut meats then drop into a receiving tray.

This machine as normally designed is quite difficult to disassemble. Here is how one of the manufacturers has designed this grinder to eliminate the primary problems of sanitation.

The hopper was made of one piece cast aluminum, completely smooth and finished so that there were no blow holes for hidden food particles. This hopper was made so that it could be removed by lifting it straight up after removing two wing nuts.

Secondly, instead of wooden wedges, two metal pieces were used which accomplished this same purpose.

Third, the grinding gears were laid in place in a channel and could be removed by merely picking them up.

Finally, the foundation piece of the machine was made of a single smooth casting with no square corners.

The entire machine can be disassembled in less than 5 minutes and can be assembled in approximately the same amount of time. This particular machine which in the past was a sore spot and, from the point of view of cleaning, an extremely expensive apparatus, is now able to operate more efficiently, and can be cleaned within a fraction of the previous time. It should be noted that no bolts or nuts were used which were concealed, no special tools are needed for the disassembly or the assembly, and that wing nuts are used throughout.

We can summarize with a list of recommendations to apply to the design and modification of machinery from the standpoint of sanitation. This summary is not meant to be applied rigidly nor is it all-inclusive. It is a guide to a sanitary approach. Nevertheless, by following this approach, we can be certain of a more sanitary plant and a more sanitary product.

General Recommendations

1. Eliminate harborage and living space for insects

and rodents.

2. Plan so that allowance is made for rapid disassembly by machine operators (not master mechanics).
3. Never build machinery or equipment close to wall. Permit enough room to allow ease in cleaning.
4. Where possible, keep equipment on wheels, so that it may be easily moved and area cleaned.
5. Build and install machinery and shelves at least 8 inches off the floor.
6. Wherever possible, wood should be eliminated in favor of metal.

Specific Recommendations

1. Make machine parts accessible to sight and touch.
2. Make all parts easy to dismantle and clean.
3. Corners, both inside and out, should be rounded for easy cleaning. Surfaces should be smooth.
4. Avoid sunken screws, open seams, dead ends, cracks, crevices and holes.
5. Avoid use of lubricants inside of machine, and thus contamination by oil.
6. Avoid threaded metal within the product zone.
7. Avoid protruding bolts and screws around which filthy matter can accumulate.
8. In order to alleviate difficulty in handling, cut down on bulkiness and weight.
9. Do not install flush to the floor—keep at least 8 inches clearance off the floor. 12 inches or more would be even more adequate.
10. Use metal, not wood.
11. Wherever possible avoid the use of zinc, iron and galvanized iron. Instead, use such metals as aluminum and stainless steel.
12. Use pure tin solder.
13. Provide clean out plates on machinery that cannot be disassembled.
14. Provide wing nuts wherever possible, for ease of disassembly.
15. Large machinery, particularly that which is enclosed for processing purposes, should be designed to permit very easy dismantling and cleaning (e.g. chocolate Cooling Tunnels).
16. Electric switches and starters should be fixed away from wall.
17. Electric cable and pipes should be supported clear of wall.
18. Sinks and bulletin boards should be placed away from walls.
19. Permanent partitions of glazed tile should be considered where possible.
20. Base of stanchions should be filled with concrete to eliminate corners.
21. Cupboards should be raised from floor, made without backs and with casters.
22. Work tables should be all metal and smooth welded.
23. Internal flanges and corners awkward for cleaning should be avoided. Flanges would be more practical on the outside where they are easier to clean.
24. Unsealed hollow castings should be avoided.
25. Outside edges should be bevelled and crevices between 2 pieces of angle iron should be avoided. Inaccessible pockets may be formed where dust and insects collect.
26. Avoid angle iron at base of machine support.

27. Where machine base meets floor, rounded cement should be used to protect base and eliminate insects.
28. All machinery should be mounted well above floor to permit easy cleaning.
29. When using lumber *always* avoid tongued and grooved boards. Instead use pressed fiber board (or even plywood).
30. Weld metal in order to obtain smooth surfaces.
31. Guards should never be fixed on machinery, but be movable.
32. Guards should be constructed with hinges and no bottoms in which dust and debris may collect.
33. Tubular supports are to be preferred to angle iron.
34. Screw conveyors should be made with a hinged trough.
35. In designing hoppers, all surfaces should be smooth and uninterrupted. Covers should be provided and should be totally removable. Hoppers should be designed for easy cleaning.
36. Motors, particularly, are usually mounted on slide rails, close to floor. They should be mounted well above the floor, at least 12 inches. Splash proof and waterproof motors should be used, if possible.
37. Hot rooms, cold rooms and general storage areas should be constructed with sanitary location in mind.
38. Pipes running from floor to floor should be well-sealed at floor and ceiling.
39. All holes between floors should be sealed.
40. Adequate hot water, cold water, steam and drainage should be available wherever machines are installed.

General Policy

1. Sanitary and clean up features should be considered in the purchase of all types of machinery.
2. Planning should be given to sanitation requirements before machines are installed.

It is the responsibility of the food processor to see to it that the machinery he purchases has been designed with sanitation as one of its aims. There are many other machines used in the confectionery industry where time and effort should be spent in redesigning in accord with sanitary principles.

For example, coaters and enrobers, which by their very nature, are difficult to clean, present one type of problem. Depositors present another, and so on. A. E. Abrahamson points out in Jacobs' "CHEMISTRY AND TECHNOLOGY OF FOOD AND FOOD PRODUCTS" that "experience has shown that the construction of sanitary drive shafts, sanitary seals of the rotary type, and other sanitary equipment parts is adequate for the proper transmission or for the other functions for which they are intended and will promote not only quality control through sanitation, but good plant practices through easing the clean-up burden."

The New York Department of Health, among others, has been quite active in good machinery design from a sanitation standpoint. The dairy industry, as has been stated before, has for many years been extremely active in this field. The bakery industry has, of late, been moving steadily toward the goal of sanitary machine and equipment design. Most of our confectionery machinery manufacturers are becoming aware of many of the evils which

have grown up in this connection. It now remains for the confectionery processor to not only be more fully aware of this problem, but also to demand in his factory, machines which have been designed to eliminate as many sanitary problems as possible. As a dollars and cents proposition, it is lucrative. As a moral proposition, it is absolutely essential. As a legal proposition, it is imperative.

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Evan Wright, Division of Food and Drug Inspection, Kansas State Board of Health, Topeka, Kansas

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Charles R. Adelson, MANUFACTURING CONFECTIONER, Sept., 1946

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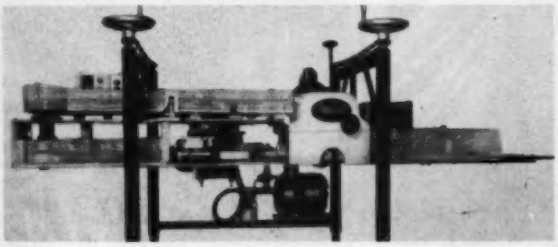
Prepared by the Association of Food Industry Sanitarians Inc. with the National Canners Association—1952—McGraw-Hill Co. New York

What's New in Candy Equipment

The products described help keep you up-to-date on new confectionery equipment, materials of all types. The items below are coded for your convenience. For any further information, write to THE MANUFACTURING CONFECTIONER, 418 *North Austin Blvd., Oak Park, Ill., or direct to the supplier listed.*

A "Spoon Sampler" has been developed to provide an efficient, accurate, and sanitary method of removing product samples from steam cooking kettles. It is furnished complete with all rubber gaskets and locknut ready to install by simply cutting a 2-1/16" circle in the section of vacuum pan just above the steam jacket. It can be installed through the steam jacket by the factory. Samples of 1.17 cubic inches are taken directly from the inside of the kettle.

For further information write: Hamilton Copper and Brass Works, 820 *State Avenue, Cincinnati, Ohio.*



A sealer-labeler is available that automatically heat seals a cellophane bar, picks up a printed label, attaches, folds and seals the label to the bag in a single continuous operation. It is designed to provide an efficient means of applying labels to bag tops and in the same process obtaining an effective bag closure without label distortion. This sealer first seals the bag, then labels it, at the rate of about 900 lineal inches per minute.

For further information write: Doughboy Industries, Inc., New Richmond, Wisconsin.

A tray elevating conveyor has been developed to elevate or lower cartons, cases, crates, etc., maintaining them in a horizontal plane. Pick-up and discharge can be automatic or manual, speed ranges vary with the size of the objects carried, but may average 12 feet per minute. An installation is being made designed to lower a stack of starch trays from a mogul to the floor below.

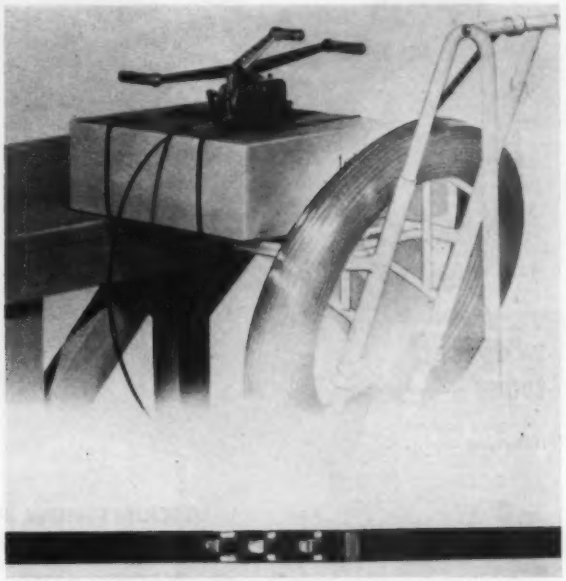
For further information write: Counsel Machine Company, 8 *Hathaway Street, Wallington, N. J.*

Pulverizers for fine and ultra fine particles are described in a new brochure. Of particular interest is the centrifugal air attrition impact pulverizer and classifier in a single unit.

For further information write: Schutz-O'Neill Company, 311 *Portland Avenue, Minneapolis* 15, *Minnesota.*

Continuous Viscosity measurement and recording are described in a new data sheet. This system makes use of a viscosity transmitter and an electronic recorder.

For further information write: Brown Instrument Company, Philadelphia 44, *Pa.*

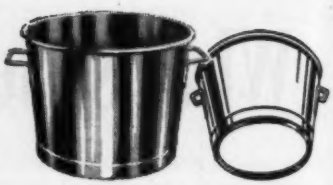


A new type of steel strapping has been developed that eliminates the need for seals. This is effected by a novel machine that tensions the strapping, cuts it to exact length void of waste, and makes a mechanical interlocking of the two overlapping ends of strapping that tests between 77% and 86% of the strength of the strapping itself.

For further information write: Inland Wire Products Company, 3947 *South Lowe Ave., Chicago* 9, *Illinois.*

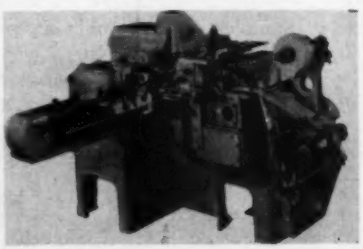
Woven glass fabrics impregnated and coated with "Teflon" are described in a new bulletin. The electrical and mechanical properties of these fabrics tapes and laminates are set forth in tabular form, and uses in other fields are touched upon.

Copies are available on request from Du Pont Company, Fabrics Division, Room 812, 250 *Fifth Ave., New York, N.Y.*



All-Seamless stainless steel utility tubs have been developed for sanitary food handling. The top rim and the foot rim are rolled over heavy steel reinforcing rods and closed against dirt. The handles of stainless steel are welded to the sides of the tub.

For further information write: The Standard Casing Company, 121 Spring Street, New York 12, N.Y.



The SIG line of wrapping machines, made in Switzerland, is now available through an American importing firm. Among the better known machines is the type CK, a high speed chocolate and candy bar wrapper. It will take bars from approximately ⅓ ounce to 3 ounces, at speeds up to 160 units per minute. The product is fed by a washable stainless steel chain into the machine, where it is wrapped with inner and outer wrapper in one operation.

For further information write: Stokes and Smith, Philadelphia 24, Pa.

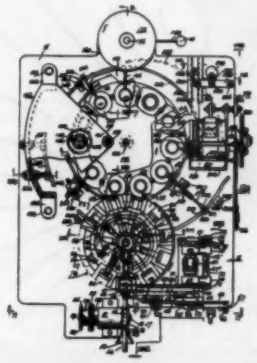
Electronic Weighing of tanks, bins and hoppers with the use of load cells is described in a new eight page bulletin. It covers installation design considerations, such as mountings, temperature effects, and vibrations; indicating and recording instruments, weighing accuracy and the engineering services of the manufacturer of load cells.

For further information write: Baldwin-Lima-Hamilton Corporation, Philadelphia 42, Pa.

Patents

2,628,169
CONFECTIONERY CONTAINER
John G. Berthold, Jr., Huntington, W. Va., assignor to The J. G. Berthold Co., a corporation of West Virginia
Application April 18, 1951, Serial No. 221,593
1 Claim. (Cl. 99—180)

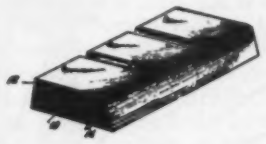
As a product of manufacture, the combination of a transparent envelope having closed upper and lower ends, a container positioned in said envelope and comprising a single sheet of material doubled upon itself along a transverse fold line to provide front and back walls permanently connected together at the fold line disposed at the top of the container, said walls defining an open sided pocket therebetween, the front wall extending downwardly below the lower end of the back wall and being in supportable engagement with the closed lower end of said envelope, means separably connecting the lower end of the back wall to the front wall at a point spaced upwardly from the lower end of the front wall, the upper end of said container being spaced downwardly from the upper end of said envelope, the front wall of the container being provided substantially at the center thereof with an opening affording a seat, an article of confectionery positioned in said pocket against the back wall and engaging said seat, the back wall being provided with an aperture at a point adjacent said fold line, and a stick-shaped handle provided on said article of confectionery and extending upwardly and outwardly from said container through said aperture, the upper end of said handle being in supportable engagement with the closed upper end of said envelope.



2,637,281
CANDY PREFORMING MACHINE
Leo Latini and Edmond Latini, Chicago, Ill.; said Edmond Latini assignor to said Leo Latini
Application February 5,1947, Serial No. 726,574
24 Claims. (Cl. 107—8)

1. In a device of the character described, the combination with a frame, of a table mounted for continuous rotation on said frame, a plurality of pairs of normally separated complemental die members uniformly spaced on said table, means for feeding material to said complemental die members when in separated relation, means for displacing one complement of said die members toward the other to compress the material therein, means for returning said compressing die member complement to its initial position, and rotary clutching means for removing the preformed material from said die member after the compressing die is elevated.

2,634,210
VITAMIN-CONTAINING CHOCOLATE FOOD PRODUCT
Frank T. Kimball, South Norwalk, Conn., assignor to Orizar Products Inc., a corporation of New York
Application January 19, 1951, Serial No. 206,751
1 Claim. (Cl. 99—11)

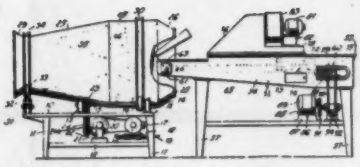


A vitamin-containing chocolate food article of high biological value and stability of vitamin content, the article comprising two parts in intimate contact and adhering to each other, mineral food supplements dispersed in one of the said parts, vitamins incompatible with the mineral supplements dispersed in the other of the parts, and powdered milk protein mixed into at least one of the said parts in proportion to make substantially solid the part containing the admixed protein, the admixed protein serving as a retainer of fat in the chocolate and an anti-

diffusion agent preventing mixing of the compatible and incompatible ingredients of the two contacting parts.

2,625,903
SUGAR SANDING MACHINE FOR CONFECTIONS AND THE LIKE

John Opie, Riverside, Ill.
Application November 22, 1950, Serial No. 196,966
4 Claims. (Cl. 118—19)



1. A sugar sanding machine for confections having a supporting frame; a pair of drivable parallel shafts journalled in said frame; pulleys on said shafts in alignment with each other; a second pair of aligned pulleys supported on the opposite end of said frame; a horizontally extending open ended hopper, having an intermediate cylindrical chamber and an adjacent frusto-conical chamber terminating in an enlarged intake opening, a pair of channel-like annular tracks secured to and surrounding said hopper, said tracks being proximate to the opposite ends thereof respectively; said tracks engaging said pairs of pulleys respectively, and an inwardly extending spiral flange mounted on the cylindrical chamber walls, a perforated spiral conveyor mounted in said hopper and having one end connected to the outlet end of said hopper and extending to the central area of said hopper; said spiral conveyor having a curved tangentially extending portion extending substantially to the inner wall of frusto-conical portion of said hopper and adapted to pick up and tumble confections and to thereby cause portions of the sugar to contact and adhere to said confections and said spiral conveyor being adapted to deliver said confections to and through the outlet opening of said hopper.

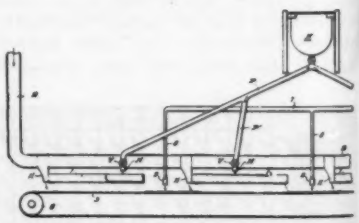
METHOD OF PRODUCING A FLUFFY CHOCOLATE CONFECTION 2,645,580

Paul E. Schultz, Wichita, Kans.
No Drawing. Application May 25, 1951, Serial No. 228,367
2 Claims. (Cl. 99—134)

1. The herein disclosed method of producing a chocolate confection of solid form but fluffy structure, comprising dispersing nitrous oxide gas under pressure in a confined body of warm, molten chocolate confection while mechanically agitating said molten confection and then releasing the mechanically agitated molten mixture containing the dispersed and mechanically distributed gas dissolved therein and allowing the mixture as it is released to expand under pressure of the gas, into fluffy condition and cooling and hardening the fluffed molten mixture to an expanded, fluffy but solid condition.

METHOD AND APPARATUS FOR THE MANUFACTURE OF CANDY 2,648,297

William S. Cloud, Wilmette, Ill.
Application November 10, 1950, Serial No. 195,046
11 Claims. (Cl. 107—54)



1. The method of making candy including flowing by gravity a bank of individual solid strings from a viscous mass of boiled, ready-to-congeal, threadable candy syrup, reducing the strings in diameter to thread-like character by gravity draw, congealing the threads separately, and diverting the threads to a laterally-extending plane so as to superimpose the individual threads on one another to form a continuous laminated layer of candy stock.

CANDY EQUIPMENT PREVIEW

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SEPTEMBER **1953**

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STREAMLINED • SANITARY • SILENT

The Savage Standard Revolving Pan supplied with fabricated steel stand totally enclosing slow speed motor, roller chain drive and precision roller bearings. The pan can be supplied made of heavy copper, **hammered for extreme hardness,** either plain or with bumped-in ribs as illustrated. Stainless steel pans are also available in 38" size only, plain or with bumped-in ribs.

- Fabricated steel stand with only pan spider and pan itself exposed.
- Pan pitched for correct angle of revolution at maximum capacity—test load 300 lbs.
- Motor mounted on adjustable base for chain take up, if necessary.
- Electric switch located conveniently for operator.
- Easy access to motor and drive by means of large side door—no bolts or nuts to remove.
- Heavy duty precision roller bearings furnished for minimum power.
- Direct motor drive only.
- Standard size 38" diameter, 33" deep, 24½" diameter opening.

Savage Standard Revolving Pans are the best for producing cream almonds, cream filberts, Boston baked beans, chocolate covered nuts, jelly beans, cinnamon imperials; also suitable for sugar coating or sanding work, toasting cocoanut and burnt peanuts and almonds. The plain pan fitted with burner or equipped with steam coil is commonly referred to as a grossing pan and the plain pan with ribs as a polishing pan.

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The prime function of lecithin, Mr. Liebig states, is as a technical aid in the manufacture of chocolate, no more and no less. Therefore, every person involved in the manufacturing operation should be thoroughly acquainted with its properties, and the reasons for its use.

The Proper Use of Lecithin in Chocolate Manufacturing

by A. WALTER LIEBIG

THE use of lecithin in pharmaceutical preparations has been known for a very long time indeed but it appears that the remarkable qualities of this processing aid were first brought to the notice of the chocolate industry during the 1920's. Its particular advantages lie in the fact that quite a small addition of lecithin, by reducing the coefficient of apparent viscosity, can make a chocolate which is being worked at the minimum possible fat content suitable for casting into moulds. Large scale experiments have led to the conclusion that an addition of 400 grams of lecithin per 100 Kgs of chocolate (0.4%), the lecithin being reckoned as commercial Soya lecithin with a true lecithin content of 60-65%, this being the form in which it is usually supplied to the trade, gives an increase in fluidity approximately equal to that given by an increase in the cocoa butter content of 4% to 5%. With the current high price of raw cocoa, it is clear that anything which tends to economize cocoa butter is of the greatest importance to chocolate manufacturers, both now and in the future, for competition in the trade makes it essential for manufacturers to market finished goods at the most attractive price possible. With cocoa butter standing at two and a half to three times the price of raw cocoa, cocoa butter savings of the order of 3% to 5% represent a very major factor in the costing of the finished goods.

The technical literature is interspersed with many references to the effects which can be achieved by means of an addition of lecithin. Nevertheless, there still appear to be some gaps, principally because so few of the scientific works on the subject concern themselves with actual techniques of making the lecithin addition. Research into the exact treatment which is permissible is badly needed, if full value is to be obtained from the employment of lecithin, for serious mistakes are made in many factories, affecting both the quality of the finished goods and the achievement of the desired gain in fluidity.

In the first place, it must be emphasized that the prime function of lecithin is as a technical aid in the manufacture of chocolate, no more and no less. Even when under strict supervision, the personnel of a chocolate factory usually have a tendency to add lecithin whenever it appears that the working conditions are thereby made easier, even though such an addition may not be in the best interests of the final product. For instance, one often sees an addition of lecithin made in the melangeurs or mixing machines, at the first mixing of the ingredients, with the object of improving the consistency of the mass being kneaded. It is true that the mixing process is thereby speeded up, especially when too little cocoa butter has been added at this stage, making it difficult to get a mass of the correct consistency to bite well on the rollers of the high speed roller refiners which constitute the next process. When too much lecithin is added at this stage of manufacture, however, too little of it remains effective as a viscosity reducer when the time comes to use the chocolate in the moulding plant or coating machine. The total amount of lecithin which can be tolerated in a chocolate is limited, partially because of legal restrictions which are enforced in many countries, and partially because excessive lecithin has the effect of increasing the viscosity again.

It is very desirable that technical personnel should receive adequate instruction in the nature and properties of lecithin, in order that they should acquire a sense of the correct handling of this most valuable technical aid. From a purely chemical point of view, it is sufficient to

know that pure lecithin belongs to the glycerine like substances. Commercial lecithins, such as are handled by the chocolate industry, are nowadays almost always of the variety which is extracted from the Soya bean. The commercial product possesses a yellowish to dark brown coloration and must be free of disturbing tastes or odors. As has already been mentioned, commercial lecithin commonly contains from 60 to 65% of pure lecithin; this is of some importance to the manufacturer as it is only this portion which produces the desired effect on his chocolate and it is also only this portion which counts as the lecithin addition, in the legal sense. If, for instance, an addition of 0.3% of lecithin is permissible, the actual addition of typical trade lecithin, of 60% pure lecithin content, can be 0.5%.

The principal consideration of importance during the earlier stages of manufacture is that temperatures in excess of 70°C, (158°F.) such as are quite common in conching practice, destroy the effect of the lecithin. If high temperature treatment of the chocolate is practiced, such as heat treatments at temperatures of up to 100°C. (212°F.), an early addition of lecithin can cause most disagreeable flavour effects. A chemical change apparently takes place, resulting in the formation of a flavour which calls to mind some of the extracts commonly used for soup flavouring purposes. For this reason, the processing must usually be planned so as to avoid the addition of more than very small quantities of lecithin in the earlier stages of manufacture. As a general guide, not more than 10% to 20% of the total lecithin addition should be made before refining, and any further addition made at the start of the conching period should also be kept to the minimum practicable. Up to 50% of the total addition may in some circumstances be unavoidable, but in such cases the conching temperature must be restricted to a maximum of 70°C. (158°F.) to 80°C. (176°F.) In the case of milk chocolate, of course, this restriction seldom presents any difficulty. Unless these limits are observed, a marked deterioration of flavour is very likely to occur during the heat treatment process. The final addition of lecithin is then made some two or three hours before completion of the conching, as this is the stage at which an addition of lecithin has the greatest ultimate effect on the fluidity of the chocolate.

It has frequently been observed that when an unnecessarily early addition of lecithin has been made, the viscosity of the chocolate increases as conching is prolonged, instead of the other way about. The cause of this is that traces of moisture, not removed by prior treatment of the chocolate in a vacuum conche or vacuum mixer, tend to become fixed by the lecithin, causing it to swell up and increase the viscosity of the masse. The favorable effect of lecithin, essentially a reduction in the coefficient of viscosity of the chocolate, is due to lecithin's being a surface active agent which can reduce surface tension. Lecithin, by effecting this reduction of surface tension, causes the fat to form into a very thin film which can completely cover and lubricate all the fat free particles of cocoa, sugar etc. in the masse.

The following concrete example of the effect of lecithin was established from the results of a long series of experiments, on a production scale, and will serve to illustrate what is actually possible under production conditions:

A semi-bitter or eating chocolate, composed of 45 parts cocoa masse, 6 parts cocoa butter and 49 parts sugar; total lecithin addition, 0.5% of commercial lecithin of 60% pure lecithin content. 50 grams of lecithin were added at the initial mixing of the ingredients and the masse was twice refined on a modern high output five roll refiner. At the start of the conching period, 100 grams of lecithin were added per 100 Kgs of masse (0.1%). The conche used was a powerful rotary conche, operating at atmospheric pressure, but with generous ventilation. The temperature of conching was initially 60°C. (140°F.). After 6 hours of conching, the masse was still of a very stiff consistency, though soft enough for the processes of aeration, moisture removal and flavor development to proceed satisfactorily. At this stage, the temperature was brought up to 80°C. (176°F.) and then held constant at this figure. After a total conching period of 22 hours, the temperature was reduced to 40° to 50°C (104° to 122°F.) and the final addition of the remaining 350 grams of lecithin per 100 Kgs of masse (0.35%) was made. Within 20 minutes, the chocolate masse was completely free flowing and of an excellent consistency for feeding to the moulding plant. With perfectly normal shaker treatment, the resultant tablets of chocolate were turned out with smooth backs and devoid of any noticeable air bubbles.

Translator's note: The processing schedule described by Mr. Liebig appears to be typical of what I have previously seen in Germany, a country in which the chronic shortage of cocoa butter has dominated the practice of chocolate makers for the last twenty years or so. The chocolate he describes appears to have a total fat con tent of about 30.5%, but I have seen almost the identical method used to produce chocolate tablets, of quite tolerable quality, containing as little as 22% total fat.

THE END

"I finally got a new and unique formula. Everybody else has made millions on it."

This article is a chapter from a new book by Mr. Richmond to be published next spring.

HAND ROLLED CREAMS

by WALTER RICHMOND

Superintendent, Norris Candy Company

THE author believes that chocolate coated creams represent the bulk of the goods sold by the retail confectioner.

With few exceptions most retail establishments are better equipped to manufacture hand rolled creams than they are to manufacture cast creams.

The various localities have different preferences as to the type of center in hand rolled creams. Some sections of the country prefer a soft flowy center, while other sections may prefer a plastic center, which is tender and at the same time breaks short. The large variety of hand rolled cream formulas contained in this book makes possible the selection of ones best fitted to your methods of manufacture and the type of creams most popular in your locality.

Hand rolled creams have a texture and tenderness not found in cast creams. They usually contain a larger percentage of sugar than the average cast cream center. They must contain enough sugar to set the creams firm enough to retain their shape for dipping purposes.

Invert sugar plays a great part in adding tenderness to the creams and at the same time acts as an agent to soften the creams after they are chocolate coated. Creams made with invert sugar as the grain control have a more tender body than creams made with corn syrup. At times a combination of the two are used to obtain the desired texture of the cream.

Creams containing egg frappe are more fluffy in texture. Its use also adds to the stand up quality and eating quality of the creams.

Invertase, by dissolving sugar crystals, controls the syrup density of the creams. The larger the amount used, the more flowy will be the creams after they are chocolate coated and aged long enough to allow the softening action of the invertase to take place.

General Instructions

SMALL BATCHES of cream that is poured on a cream slab and creamed by means of a spade or scraper should be made in the following manner. Place the materials specified in the formulas in a cooking kettle. Bring to boiling point and cover the kettle for a few minutes to let the steam wash sugar crystals from the sides of the kettle. Remove cover and with a wet brush wash away any sugar crystals that remain on the sides of the kettle. Cook to specified degree. Pour onto cream slab that has been lightly sprinkled with water. Sprinkle a small amount of water on top of the syrup. This will prevent a sugar crust from forming on the top surface of the syrup. Cool to degree specified in the formula and cream up with a spade or long handled scraper. Cover the creamed batch with a damp cloth to allow the cream to soften up (sweat back). When a fondant is fully creamed it will be at its peak of hardness. It will gradually soften up and remain so. This is called sweating back. The sweating back of a fondant takes from 10 to 20 minutes. The length of time is governed by the amount of sugar the batch contains and the degree to which it is cooked. High cooked batches or ones with a very high sugar content require more time than the lower cooked and heavier doctored creams. It is not necessary to let the creamed fondant remain on the slab or cream beater during the sweating process. It can be taken from the slab as soon as it is creamed and put in a container and the sweating process will take place.

LARGE BATCHES that are to be cooked by steam, whenever possible, should be made in the following manner. The same cooking procedure should be followed as for small batches. Pour cooked batch on plow type cream beater that has been lightly sprinkled with water. Sprinkle top surface of syrup with a small amount of

water. Cool to degree specified in formula. Drain water from jacket of the beater so that continued cooling will not take place. An over-chilled batch of fondant will be slow in developing a grain and the fondant will lack body. When the syrup has cooled to the correct temperature, start creaming the batch and add other ingredients in the order specified in the formula. Allow the batch to sweat back before placing it in the hand roll machine. The cream should be kneaded so that it has an even distribution of heat and stiffness. If all of the cream is not of the same consistency the moulded centers will not be uniform in size, if moulded by machines.

The centers can be shaped and rolled by hand or by one of the following methods. (1) By extruding through a hand roll machine which has a plate with multiple outlets. (2) By extruding through a cookie depositor which has a single row of outlets in a plate attached to the depositor. (3) By extruding through a Cutrol machine with a single outlet and then rolling the centers by means of traveling belts. This latter method of rolling centers is the only one of the three methods described where the centers can be made in a ball shaped piece that duplicates a hand rolled center. The fondant may have to be cooked one or two degrees higher when a Cutrol machine is used.

Any of the above methods of forming centers can be used with good results but the cooking temperatures must be adjusted to suit the type of rolling method. Whether rolled by hand or formed by machine, flour should be used as a dusting agent.

All hand rolled centers need a thin crust on them in order to retain their shape while being chocolate coated. The forming of the crust can be hastened by placing the formed centers in front of a fan.

Chocolate coated hand rolled creams will burst through a thin spot in the coating if coated unevenly. Dipping centers that are too cold will result in leakers because the cold centers will expand and the chocolate coating will contract when both the center and the coating have reached the same temperature. Over doctoring the creams will prevent them from having sufficient body and leaking will occur.

Dryness will result if too much moisture is removed from the fondant by overcooking it or if an insufficient amount of invert sugar or corn syrup is used.

A course grain will develop if the fondant is creamed at too high a temperature.

Enough invert sugar or invertase should be used to create a heavy syrup density to prevent fermentation in creams with a high moisture content. Using partially fermented frappe will result in fermented creams.

Vacuum Cooking

The larger size batches can be cooked in the gas fired or steam jacketed simplex vacuum cooker.

The sugar and water are brought to the boiling point and the invert sugar and corn syrup are then added to the batch. The batch is cooked from 11 to 12 degrees lower than the cooking temperature called for in the open kettle cooking method. After the syrup is cooked to the desired temperature the vacuum kettle is closed and the vacuum pump started. When vacuum gauge shows a 15 inch reading, continue running vacuum pump for 10 minutes.

Pour onto cream beater. Start beater and when batch becomes cloudy looking add frappe, flavor, invertase, acid solution and salt (if called for). If fruits or nuts are to be added to the batch they should be added just before the batch has reached its final stages of creaming up. When batch has finished creaming stop beater for about 10 minutes and let the batch sweat back. Start beater and run only until fondant is softened to an even consistency. Place fondant in container until firm enough to shape by hand or form on a hand roll machine.

If the batch becomes over chilled and fails to cream up in the usual time, stop the beater for a minute or two. If the batch is not agitated for that length of time the sugar crystals will form more quickly.

Formula # 1

HAND ROLLED CREAMS # 1

Small Batch Hand Made	Ingredients Part 1	Large Batch Machine Made
20 lbs	Medium granulated sugar	80 lbs
2 lbs	Invert sugar	8 lbs
2 lbs	Corn syrup	8 lbs
1 gal	Water	4 gals
	Part 2	
3½ lbs	Frappe #2	14½ lbs
Sufficient	Flavor	Sufficient
6 drams	Invertase (see note)	3¼ ozs
2 drams	Acid solution—(equal parts tartaric acid and water)	1¼ ozs
¾ ozs	Salt	3¼ ozs
10 ozs	Invert Sugar	2½ lbs

PROCEDURE: FOR SMALL BATCH

Spread 10 ounces of invert sugar on slab. Sprinkle slab with a small amount of water.

FOR LARGE BATCH

Spread 2½ pounds of invert sugar on cream beater. Sprinkle beater with small amount of water. Part 1; place sugar, corn syrup, invert sugar and water in cooking kettle.

Follow general instructions for making hand rolled creams. Cook batch to 244-246 degrees Fahr. Pour onto cream slab or cream beater. Cool to at least 100 degrees. Start creaming batch and when it becomes cloudy looking add Part 2, frappe, flavor, invertase, salt and acid solution. Finish creaming batch and let it sweat back until it is suitable for hand rolling.

Hand roll or form centers on hand roll machine. Let set until crust has formed on centers and they are firm enough to dip.

Hand or machine coat in a good grade of milk chocolate or dark sweet vanilla chocolate.

REMARKS. This formula produces a very fine hand rolled cream and can be made in a great variety of flavors.

The cooking temperatures will have to be adjusted if the creams contain fruits or nuts.

The following flavors are suggested, but many other flavor combinations of your own choosing can be added to the line.

The flavor, color, invertase, acid solution, powdered citric acid (for fruit flavored pieces) salt, and frappe, should be added to the batch as instructed above. The nuts or fruit jams should be added to the batch when it is nearly creamed up but, soon enough so that it can be thoroughly mixed in the batch.

VANILLA—Cook 246 degrees—add 4 ounces vanilla flavor to large batch or 5 drams to the small batch.

MAPLE NUT—Cook 244 degrees—add 3 ounces maple flavor, caramel color to suit requirements and 12 pounds chopped pecans or English walnuts to the large batch or 5 drams maple flavor and 3 pounds chopped nuts to the small batch.

SOUR ORANGE—Cook 246 degrees—add 2 ounces orange oil, 2¾ pounds chopped preserved orange peel and 3 ounces powdered citric acid to the large batch or ½ ounce orange oil, ¾ pounds orange peel and ¾ ounce citric acid to the small batch. Color light shade of orange color.

RASPBERRY FRUIT—Cook 248 degrees—add 1¼ ounces good

grade imitation raspberry flavor, 2¾ pounds raspberry jam and 2¼ ounces powdered citric acid or 2 ounces powdered tartaric acid to the large batch or 2½ drams raspberry flavor, ¾ pounds raspberry jam and ½ ounce citric acid or ⅜ ounce tartaric acid. Color light red color.

STRAWBERRY, PINEAPPLE—Same as raspberry but substitute pineapple jam and pineapple flavor or strawberry jam and strawberry flavor for raspberry jam and raspberry flavor. Acid remains the same. Cook as for raspberry fruit cream.

COFFEE—Use a good grade of coffee in paste form to color and flavor centers.

CHOCOLATE—Cock 244 degrees—add 5 to 6 pounds of melted chocolate liquor to the large batch when it is nearly finished creaming—1¼ to 1½ pounds to small batch.

COCONUT—Cook 244 degrees—add flavors and 11 pounds medium and fine coconut freshened coconut—(6 pounds fine coconut, 5 pounds medium coconut soaked for at least ½ hour in a mixture of 4 pounds invert sugar and 2 pints of hot water), for the large batch, or ¼ this amount of freshened coconut and flavor for the small batch.

CHOCOLATE COCONUT—Same as Vanilla coconut but, add 5 to 6 pounds of melted chocolate liquor to the large batch or 1¼ to 1½ pounds to the small batch.

NOTE: Invertase and acid solution can be omitted if goods are to be sold in less than two weeks time after being made.

Formula # 2

HAND ROLLED CREAMS #2

Small Batch Hand Made	Ingredients	Large Batch Machine Made
20 lbs	Medium granulated sugar	80 lbs
2½ lbs	Invert sugar	10 lbs
⅛ oz	Cream of tartar	½ oz
3¾ lbs	Frappe #2	15 lbs
½ oz	Invertase (see note)	2 ozs
	(Acid solution—equal parts water and tartaric acid)	
Sufficient	Flavor	Sufficient
7 pts	Water	3½ gals

PROCEDURE: Place sugar, invert sugar, cream of tartar and water in cooking kettle. Follow general instructions for making hand rolled creams. Cook batch to 244-246 degrees Fahr. Pour onto cream slab or cream beater that has been lightly sprinkled with water. Cool to at least 110 degrees. Start creaming batch and when it becomes cloudy looking add flavor, invertase, acid solution and frappe. Finish creaming batch and let it sweat back until it is suitable for hand rolling. Hand roll or form centers on hand roll machine. Let set until crust has formed on centers and they are firm enough to dip.

Hand or machine dip in good grade of milk or dark sweet vanilla chocolate.

REMARKS: It is a matter of choice as to which of the hand rolled formulas to use. This formula produces a cream with a tender texture but not quite as flowy as the creams made with the preceding formula #1.

The same flavors, fruits and nuts used in formula #1 can be used in these creams. As with formula #1, the cooking temperature will have to be adjusted for centers containing fruits or nuts.

NOTE: Invertase and acid solution can be omitted if the goods are to be sold in less than two weeks time after being made.

Formula # 3

HAND ROLLED CREAMS # 3
BITTER SWEET WHIPPED CREAM

Some firms prefer to prepare the frappe for each individual batch of hand rolled creams instead of using a stock frappe. The creams made with this formula contain a little more egg albumen than do the two previous formulas. They are more of a whipped cream type than a soft plastic type hand roll.

Small Batch Hand Made	Ingredients Part 1	Large Batch Machine Made
21 lbs	Medium granulated sugar	64 lbs
2 lbs	Invert sugar	6 lbs
1 gal	Water	3 gals

Part 2

4 lbs	Corn syrup	12 lbs
½ oz	Salt	2 ozs
5 ozs	Egg albumen	15 ozs
1 pt	Water	3 pts
1/3 oz	Invertase	1 oz
¾ oz	Vanilla Flavor	2 ozs

PROCEDURE: PART 1—Place sugar, invert sugar and water in cooking kettle. Follow general instructions for making hand rolled creams. Cook batch to 246 degrees Fahr. Pour onto slab or cream beater that has been lightly sprinkled with water. Cool to at least 100 degrees. Start creaming batch and when it becomes cloudy looking add PART 2. Frappe (should be made before cooking part 1) made as follows—Place in small beater, used for whipping frappes, etc. The corn syrup should be warmed. Add the salt, egg albumen soaked in the amount of water specified in part two of the formula. Beat until batch is light and fluffy. While batch is beating add the invertase. Start creaming batch and add the flavor and frappe at once. When batch has creamed up, let it sweat back until it is suitable for hand rolling.

Hand roll or form on hand roll machine. Let set until crust has formed on the centers and they are firm enough to dip. Dip in a good grade of bitter sweet chocolate or mix 75% dark vanilla chocolate with 25% chocolate liquor.

Formula # 4

HAND ROLLED CREAMS # 4
BITTER SWEET WHIPPED CREAM

By replacing the invert sugar in formula #3 for bitter sweet whipped creams, with 2 level teaspoons cream of tartar (large batch) or 2/3 level teaspoon cream of tartar (small batch) a whipped cream with a drier texture will be obtained—Handle same as preceding formula.

Formula # 5

HAND ROLLED CREAMS # 5
DUTCH CHOCOLATES

Small Batch Hand Made	Ingredients Part 1	Large Batch Machine Made
21 lbs	Medium granulated sugar	84 lbs
4 lbs	Corn Syrup	16 lbs
½ oz	Acetic Acid 28%	2 ozs
1 gal	Water	4 gals
	Part 2	
2 ozs	Egg Albumen	8 ozs
4 ozs	Water	1 pt
6 drams	Vanilla Flavor	3 ozs

PROCEDURE: Dissolve egg albumen in specified amount of water.

Place part 1—sugar, corn syrup and water in cooking kettle. Bring to boil and add acetic acid. Follow general instructions for making hand rolled creams. Cook to 235 degrees and withdraw 1 quart of the syrup for the large batch or ½ pint for the small batch. Place in egg beater and beat for a few minutes then add dissolved egg albumen and beat until light and fluffy (part 2).

Continue cooking the rest of the batch to 246 degrees Fahr. Pour onto cream slab or cream beater. Cool to 100-110 degrees. Place frappe (part 2) and vanilla flavor on top of the batch. Cream up the batch and let it sweat back until it is suitable for hand rolling. Hand roll or form on Cutrol type machine that will make a ball shape center. Let set until crust has formed on the centers and they are firm enough to dip.

HAND DIP in a good grade of bitter sweet chocolate. As the dipped center is laid on the dipping plaque, slightly pinch the top of the cream so that it has a very thin coating on top. After the chocolate has hardened a small finger of cream will force its way through the thin dipped spot in the coating and will form on the top.

REMARKS: This is an old time weekend special with very good eating quality and eye appeal. This formula produces a cream of a heavy plastic nature and can be fully dipped if the "Dutch Chocolate" is not wanted. It can be made in assorted flavors such as mint, lemon, orange and chocolate. For the chocolate flavored center cook one degree lower and add 4 or 5 pounds of melted chocolate liquor to the batch just before it is ready to set up. Add 1 to 1¼ pounds chocolate to the small batch.

HAND ROLLED BUTTER CREAMS

There are two methods of adding butter to creams, cooking it in the batch or adding it to the creamed up fondant.

The butter creams made by cooking the butter in the batch usually contain a smaller percentage of butter than do the creams where the butter is added to the fondant.

First choice for a retail butter cream is the one made by the second method.

Whenever possible the butter should be mixed with the fondant on a Hobart type mixing machine. If no mixer is available the butter can be worked into the fondant by hand.

To lengthen their shelf life, all butter creams should contain some anti-oxidant. (See July issue, The Manufacturing Confectioner, Page 60.

Formula # 6

HAND ROLLED BUTTER CREAM # 1—COLD PROCESS

Small Batch Hand Made	Ingredients	Large Batch Machine Made
20 lbs	Medium granulated sugar	90 lbs
2 lbs	Invert sugar	9 lbs
2 lbs	High culture butter	9 lbs
1 lb	Frappe #2	4½ lbs
1¼ ozs	Salt	6 ozs
1¼ gals	Water	5½ gals
1¼ ozs	Vanilla flavor	6 ozs
⅜ oz	Anti-oxidant	1½ ozs

PROCEDURE: Place sugar, invert sugar, salt and water in cooking kettle. Follow general instructions for making hand rolled creams. Cook to 246-248 degrees Fahr. Pour onto cream slab or beater. Cool to as low a temperature as possible (90-95 degrees). Cream up the batch and let it sweat back for at least 2 hours.

For the large batch, place the fondant in a Hobart type mixer, add butter in small pieces and run mixer until butter is well mixed with the fondant. Add flavor and frappe, mix well and hand roll or form centers on hand roll machine.

For small batch, knead the butter into fondant by hand. Add flavor and frappe. Mix well and hand roll to desired size and shape. Let set until crust has formed on the centers and they are firm enough to dip.

Hand dip or coat on chocolate coating machine in a good grade of bitter sweet chocolate.

For chocolate flavored butter creams, reduce the cooking temperature two degrees and add 3 to 4 pounds of melted chocolate liquor to the large batch or ¾ to 1 pound to the small batch. Add liquor chocolate before adding the butter.

NOTE: Creams to be rolled by hand can be cooked about two degrees lower than creams to be formed by machine.

This is an all sugar fondant cooked to a rather high temperature and must sweat back along enough so that it will not contain any hard lumps of fondant.

NOTE: Antioxydant can be mixed with a small amount of butter before adding it to the batch.

This article will be concluded in the October issue of this magazine.

The MANUFACTURING CONFECTIONER'S

Candy Clinic

The Candy Clinic is conducted by one of the most experienced superintendents in the candy industry. Some samples represent a bona-fide purchase in the retail market. Other samples have been submitted by manufacturers desiring this impartial criticism of their candies, thus availing themselves of this valuable service to our subscribers. Any one of these samples may be yours. This series of frank criticisms on well-known branded candies, together with the practical "prescriptions" of our clinical expert, are exclusive features of The MANUFACTURING CONFECTIONER.

Code 9D53
Chocolate Coated Marshmallow Bar
1-3/16 ozs.—3 for 10c

(Purchased in a chain department store, Chicago, Ill.)

Appearance of Bar: Good.
Size: Good.
Wrapper: Glassine paper printed in silver, blue.
Bar:
Coating: Has roasted peanuts in it. Good.
Center:
Color: Good.
Texture: Good.
Taste: Good.
Remarks: The best chocolate covered marshmallow bar we have examined this year at this price.

Code 9E53
Chocolate Coated Nougat & Caramel Bar
1¼ ozs.—3 for 12c

(Purchased in a chain drug store, Chicago, Ill.)

Appearance of Bar: Fair.
Size: Good.
Wrapper: Glassine paper printed in blue, red and white.
Coating: Good.
Center:
Color: Good.
Texture: Good.
Taste: Good.
Remarks: The best bar of this type we have examined this year. Suggest a brighter wrapper as most all bars have bright and attractive wrappers.

Code 9F53
Almond Crunch Bar
¾ ozs.—3 for 10c

(Purchased in a chain drug store, Chicago, Ill.)

Appearance of Bar: Good.
Size: Good.
Wrapper: Paper backed gold foil printed in blue and white.
Bar:
Coating: Milk chocolate. Good.
Center:
Color: Good.
Texture: Good.
Taste: Good.
Remarks: The best bar of this type we have examined this year. We suggest the manufacturer check the cost of this bar; we doubt that there is a living profit at the above retail price.

Code 9G53
Chocolate Coated Mint Marshmallow Bar
8/10 ozs.—6 for 14c

(Purchased in a chain drug store, Chicago, Ill.)

Appearance of Bar: Good.
Size: Good.
Wrapper: Glassine paper printed in green, white and red.
Bar:
Coating: dark: Good.
Center:
Color: Good.
Texture: Good.
Taste: Fair.
Remarks: Suggest the cost of this bar be checked as the manufacturer can not make a living profit at the above price.

Code 9A53
Chocolate Coated Bar
1¼ ozs.—3 for 10c

(Purchased in a chain department store, Chicago, Ill.)

Appearance of Bar: Good.
Size: Good.
Wrapper: Glassine paper printed in silver, brown and white.
Bar:
Coating: dark: Good.
Center:
Color: Good.
Texture: Good.
Taste: Good.
Remarks: The best coconut bar of this type we have examined this year. We have examined this bar many times and always find it the same.

Code 9B53
Chocolate Coated Caramel & Nougat Bar
1½ ozs.—3 for 12c

(Purchased in a chain department store, Chicago, Ill.)

Appearance of Bar: Good.
Size: Good.
Wrapper: Glassine paper, printed in green, white and red.
Bar:
Coating: dark: Fair.
Center:
Color: Good.
Texture: Good.
Taste: Good.
Remarks: A well made bar. The coating is not up to standard of other bars in this price field.

Candy Clinic Schedule For The Year

The monthly schedule of the CANDY CLINIC is listed below. When submitting items, send duplicate samples six weeks previous to the month scheduled.

JANUARY—Holiday Packages; Hard Candies
FEBRUARY—Chewy Candies; Caramels; Brittles
MARCH—One-Pound Boxes Assorted Chocolates up to $1.00
APRIL—$1.00 and up Chocolates; Solid Chocolate Bars
MAY—Easter Candies and Packages; Moulded Goods
JUNE—Marshmallows; Fudge
JULY—Gums; Jellies; Undipped Bars
AUGUST—Summer Candies and Packages
SEPTEMBER—Bar Goods; 5c Numbers
OCTOBER—Salted Nuts; 10c-15c-25c Packages
NOVEMBER—Cordial Cherries; Panned Goods; 1c Pieces
DECEMBER—Best Packages and Items of Each Type Considered During Year; Special Packages, New Packages

Code 9C53
Milk Chocolate Coated Peanut Butter Crunch Bar
1-3/16 ozs.—3 for 10c

(Purchased in a chain department store, Chicago, Ill.)

Appearance of Bar: Good.
Size: Good.
Wrapper: Glassine printed in red and blue.
Bar:
Coating: Good.
Center:
Color: Good.
Texture: Good.
Taste: Good.
Remarks: The best bar of this type we have examined this year at this price.

Code 9H53
Milk Chocolate Bar
1½ ozs.—3 for 25c

(Purchased in a chain drug store, Chicago, Ill.)

Appearance of Bar: Good.
Size: Small looking.
Wrapper: Inside foil and glassine. Outside paper band printed in purple and gold.
Bar:
Color: Good.
Molding: Good.
Texture: Dry and hard.
Taste: Fair.
Remark: Chocolate is dry and hard; it also lacks a good milk taste.

Code 9I53
Chocolate Coated Maple Cream Pattie
2¼ ozs.—3 for 25c

(Purchased in a chain drug store, Chicago, Ill.)

Appearance of Pattie: Good.
Size: Good.
Wrapper: Glassine paper printed in yellow, red and brown.
Pattie:
Coating: dark: Contained roasted peanuts. Good.
Center:
Color: Good.
Texture: Good.
Flavor: Good.
Remarks: The best pattie of this type we have examined this year.

Code 9K53
Chocolate Almond Bar
1¼ ozs.—6 for 25c

(Purchased in a chain drug store, Oak Park, Ill.)

Appearance of Bar: Good.
Size: Small looking.
Wrapper: Inside foil wrapper. Outside wrapper of amber colored cellulose printed in red.
Bar:
Milk chocolate: Good.
Center:
Color: Good.
Texture: Good.
Taste: Good.
Remarks: The best bar of this type we have examined this year. Suggest bar be spread out to give it size.

Code 9N53
Milk Chocolate Coated Molasses Peanut Butter Bar
1¼ ozs.—6 for 25c

(Purchased in a chain drug store, Oak Park, Ill.)
Appearance of Bar: Good.
Size: Good.
Wrapper: Glassine paper printed in orange, blue and white.
Bar:
Coating: Good.
Center:
Color: Good.
Texture: Good.
Taste: Good.
Remarks: One of the best bars of this type we have examined this year.

Code 9L53
Chocolate Coated Nut Roll Bar
1¼ ozs.—6 for 25c

(Purchased in a chain drug store, Oak Park, Ill.)
Appearance of Bar: Good.
Size: Good.
Wrapper: Glassine paper printed in brown, yellow and red.
Bar:
Coating: Good.
Center:
Color: Good.
Texture: Good.
Taste: Good.
Remarks: The best bar of this kind we have examined this year.

Code 9J53
Peanut Nougat Bar
1⅜ ozs.—No price stated

(Purchased in a chain drug store, Chicago, Ill.)
Appearance of Bar: Good.
Size: Good.
Wrapper: Paper backed foil printed in green and blue.
Bar:
Color: Good.
Texture: Good.
Taste: Good.
Remarks: One of the best nougat bars of this type we have examined this year.

Code 9M53
Milk Chocolate Coated Almond Crunch Bar
¾ ozs.—6 for 25c

(Purchased in a chain drug store, (Oak Park, Ill.)
Appearance of Bar: Good.
Size: Good for this type of bar.
Wrapper: Glassine printed in brown, blue and red.
Bar:
Coating: Good.
Center:
Color: Good.
Texture: Good.
Taste: Good.
Remarks: The best bar of this type we have examined this year. Suggest Crunch be used instead of Toffee as it is a Crunch and not a Toffee.

Code 9O53
Licorice Bar
1¾ ozs.—6 for 25c

(Purchased in a chain drug store, Oak Park, Ill.)
Appearance of Bar: Good.
Size: Good.
Wrapper: Cellulose printed in white and yellow.
Bar:
Color: Good.
Texture: Good.
Flavor: Good.
Remarks: A very good licorice bar, good eating and a good licorice flavor.

Code 9P53
Brazil Nut Roll
1¼ ozs.—6 for 25c

(Purchased in a chain drug store, Oak Park, Ill.)
Appearance of Bar: Good.
Size: Good.
Wrapper: Cellulose printed in blue, yellow and red.
Bar:
Caramel: Good.
Center:
Color: Good.
Texture: Good.
Taste: Good.
Remarks: The best bar of this type we have examined this year. Well made and good eating.

PROTECTS—DISPLAYS—SELLS

MINTS HARD CANDIES
CHOCOLATES ASSORTMENTS

Manufacturing retailers and wholesalers all over the country are using metal containers. They have found cans to be a sales boost to seasonal and holiday items, as well as for those "in-between" times. Do you have an item never before packaged in metal cans? Write us, and let us design and style a can for your confections.

STOCK OR CUSTOM
DESIGNS AND SIZES
QUALITY SERVICE BY

Confectionery Brokers

New England States

JESSE C. LESSE CO.
Confectionery
Office and Sales Room
161 Massachusetts Ave.
BOSTON 15, MASS.
Territory: New England

Middle Atlantic States

HERBERT M. SMITH
318 Palmer Drive
NO. SYRACUSE, NEW YORK
Terr: New York State

IRVING S. ZAMORE
2608 Belmar Place
SWISSVALE, PITTSBURGH 18, PA.
29 Years Experience
Terr: Pennsylvania, excluding city of Philadelphia

South Atlantic States

W. M. (BILL) WALLACE
Candy and Specialty Items
P. O. Box 472—111 Rutland Bldg.
DECATUR, GEORGIA
Terr: Ga. & Fla.
Thorough Coverage

SAMUEL SMITH
2500 Patterson Ave. Phone 22318
Manufacturers' Representative
WINSTON-SALEM 4, N. CAROLINA
Terr: Virginia, N. Carolina, S. Carolina

ROY E. RANDALL CO.
Manufacturers' Representative
P. O. Box 605—Phone 7590
COLUMBIA 1, SO. CAROLINA
Terr: No. & So. Carolina
Over 25 years in area

IRVIN P. NORRIS
Manufacturing Representative
Austin Circle
DECATUR, GEORGIA
Candy—Novelties—Package Foods
Territory: Ga., Fla., Ala. & Tenn.

JIM CHAMBERS
Candy Broker
84 Peachtree Street
ATLANTA, GEORGIA
Terr: Ga., Ala., and Fla.

BUSKELL BROKERAGE CO.
1135 East Front Street
RICHLANDS, VA.
Contact Wholesale Groceries, Candy Jobbers and National Chains
Terr: Va., W. Va., Eastern Tenn., and Eastern Kentucky

WM. E. HARRELSON
Candy & Allied Lines
5308 Tuckahoe Ave.—Phone 44280
RICHMOND 21, VIRGINIA
Terr: W. Va., Va., N. & S. Car.

East No. Central States

H. K. BEALL & CO.
308 W. Washington St.
CHICAGO 6, ILLINOIS
Phone STate 2-6280
Territory: Illinois, Indiana, Wisconsin
25 years in the Candy Business

IRWIN R. TUCKER COMPANY, INC.
308 W. Washington Street
Chicago 6, Illinois
Complete Coverage of Chicago Market

ROGER ETTLINGER
Phone Townsend 8-5369
16525 Woodward Ave.
DETROIT 3, MICHIGAN
Terr: Entire state of Michigan

BERNARD B. HIRSCH
1012 N. 3rd St.
MILWAUKEE 3, WISCONSIN
Terr: Wis., Ia., Ill. (excluding Chicago) Mich. (Upper Penn.)

East So. Central States

J. L. FARRINGER CO.
FRANKLIN, TENNESSEE
Established 1924
Territory: Tenn., Ky., and W. Va.
3 Salesmen covering territory

FELIX D. BRIGHT & SON
Candy Specialties
P. O. Box 177—Phone 8-4097
NASHVILLE 2, TENNESSEE
Terr: Kentucky, Tennessee, Alabama, Mississippi, Louisiana

AUBREY O. MAXWELL CO.
91 Franklin St.
NASHVILLE 3, TENN.
Manufacturers Sales Agent
Territory: Middle Tennessee

News of Brokers

Dozier-Pond is now representing **Up To Date Candy Manufacturing Company** in Michigan, exclusive of the Upper Peninsula, including Detroit.

Gregg International, Inc., has added **Henry Sargent** to their New York City sales force, and the following brokers:
Jules J. Seide, of Chicago, Illinois
Lincoln S. Conrad, of Lancaster, Pa.
Mackes Sales Company, of Altadena, Calif.
Fred L. Ames of Jacksonville, Fla.
G. Westerlund, of San Francisco, Calif.
R. L. Yates, of Detroit, Mich.
Bradley S. Dawes, of Chicago, Illinois
Gene Steele & Co., Atlanta, Georgia

Edward M. Cerf is now representing **C. S. Allen Corp.**, in the San Francisco area.

Elmer J. Edwards is now representing **Commercial Candy Manufacturng Co.**

Lithall Associates are now representing **Melster Candies, Inc.**

Burney Brokerage Company is now representing **Blumenthal Brothers Chocolate Company** on their confectionery line in the state of Illinois, exclusive of the Chicago area.

John O. Barker (Ireland), Ltd., a new chewing gum manufacturing firm, has been established in Dublin by **John Barker** of New York. The managing director, Francis H. Stell, is the manufacturer of Brookfield brand candy and gum. Toffees and hard candies will be produced by the Barker plant for European markets this fall. Mr. Barker, a director in the firm, has been associated with Dentyne, Sweets Laboratories, Inc., Gum Laboratories and Gum Maker of America. He has been in the gum industry for over 40 years in both Europe and America.

The Spier Candy and Novelty Company leased the building at 32-49 Gale Avenue, Long Island City, Queens from the Hunterspoint Realty Corp.

Lt. Mark J. Heidelberger, U. S. N. will be released from Navy-Duty on about November 1st and will resume his activities with the **Heidelberger Confectionery Company** in Philadelphia. Lt. Mark Heidelberger was called in to active duty in February 1952.

The Sweets Company of America, Inc. New Jersey, maker of Tootsie Rolls, has awarded a 21-inch Motorola Television set to **James J. Reiss** of the Purity-Reiss Candy Company, New Orleans for coming closest in a contest of estimating the number of individual Tootsie Candies contained in a large, transparent, pliofilm bag at the recent National Candy Wholesalers Association convention in Chicago. At the Supermarket convention, a Westinghouse 21-inch TV set was won in a similar contest by **Joseph H. Rash** of Baltimore, Md.

Dodge & Olcott, Inc. of New York has recently added three new men to its rapidly growing sales force. **Louis Mignacca,** Navy veteran of World War II and 1950 recall to service, formerly regional sales manager of the metropolitan area for Pearson Pharmacal Company, and a psychology major graduate of Brown University, will work in the New York City area. **John Thompson,** a native of Toronto, Canada, a bomber navigator with the RCAF during World War II, and sales representative in the industry since 1945 throughout Toronto and Ontario, will soon manage a new branch office in Toronto, the location of which will be announced soon. **William A. Gray,** Geneva, Illinois, with 17 years of varied experience working with ice cream manufacturers, bakery and candy wholesalers and meat packers, will work out of the D & O Chicago Branch Office managed by Ken Hartley.

Blum's, San Francisco is adding several new retail outlets to its firm, President **Robert Beattie** announced recently, and the company offices would be moved from Polk and California Streets to the company plant on Shotwell St. Mr. Beattie expects the financial records to nearly break even for the first six months of this year as compared to a $175,000 loss for the same period last year.

Confectionery Brokers

West No. Central States

ELMER J. EDWARDS
CANDY BROKERAGE
5352 31st Ave. So.
MINNEAPOLIS 17, MINN.
Phone: Pa. 7659
Terr: Minn., N. & S. Dak.—Special attention given to Twin City trade

GRIFFITHS SALES COMPANY
725 Clark Ave.—Phone GA. 4979
SAINT LOUIS 2, MISSOURI
We specialize in candy and novelties.
Terr: Mo., Ill., and Kan.

West So. Central States

JAMES A. WEAR & SON
P. O. Box 27
BALLINGER, TEXAS
Personal Representation
Territory: Texas

Mountain States

JERRY HIRSCH
Manufacturers' Representative
Candy and Specialty Items
4111 E. 4th St.
TUCSON, ARIZONA
Territory: Arizona, New Mexico & El Paso, Texas

AR-N-TEX
P.O. Box 1442
ALBUQUERQUE, NEW MEXICO
Brokers of Fine Candies
and
Interesting Novelties
We believe in "detail" work
Three Men covering:
West Tex., N. M., Ariz., Colo., Utah

G & Z BROKERAGE COMPANY
New Mexico—Arizona El Paso County Texas
P. O. Box 227 ALBUQUERQUE N. Mex.
Personal service to 183 jobbers, super-markets and department stores. Backed by 26 years experience in the confectionery field. We call on every account personally every six weeks. Candy is our business.

KAISER MICHAEL
Broker
Manufacturers' Representative
"Worlds Finest Candies"
911 Richmond Drive, S.E.
ALBUQUERQUE, NEW MEXICO
Terr: New Mexico, Arizona & El Paso, Texas area

Pacific States

MALCOLM S. CLARK CO.
1487½ Valencia St.
No. Cal., Nev., & Hawaii
SAN FRANCISCO 10, CALIF.
923 E. Third St.—Southern California
LOS ANGELES 13, CALIF.
Terminal Sales Bldg.
Wash., N. Idaho
SEATTLE 1, WASH.
903 Park Road
Ariz., New Mex., W. Texas
EL PASO, TEXAS

RALPH W. UNGER
923 East 3rd St.
Phone: Trinity 8282
LOS ANGELES, CALIFORNIA
Terr.: Calif., Ariz., N. Mex., Hawaiian Islands

GENE ALCORN & CO.
1340 E. 6th Street
LOS ANGELES 21, CALIFORNIA
383 Brannan Street
SAN FRANCISCO 7, CALIFORNIA
Territory: State of California

HARRY N. NELSON CO.
112 Market St.
SAN FRANCISCO 11, CALIF.
Established 1906
Sell Wholesale Trade Only
Terr: Eleven Western States

I. LIBERMAN
SEATTLE 22, WASHINGTON
Manufacturers' Representative
1705 Belmont Avenue
Terr: Wash., Ore., Mont., Ida., Utah, Wyo.

GEORGE R. STEVENSON CO.
Terminal Sales Building
SEATTLE, WASHINGTON
Territory: Wash., Ore., Ida., Mont
Over 20 years in this area.

NILES F. WICKER
Confectionery Manufacturers' Representative
811 Boren Avenue
SEATTLE, WASHINGTON
Territory: Washington and Oregon
15 years' experience in selling candy to all wholesale grocery, tobacco, confectionery jobbers, besides making a full coverage on all grocery chains, drug chains, super markets and pre-packers.

ULTRA MODERN EQUIPMENT

Installed New From 1948 to 1951

For Sale Piecemeal

direct from floors of well known

RIGGI CANDY CO.

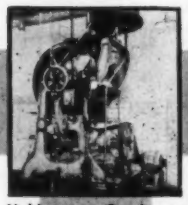
3704 West North Ave. **Chicago, Illinois**

AT SPECIAL BARGAIN PRICES FOR QUICK SALE

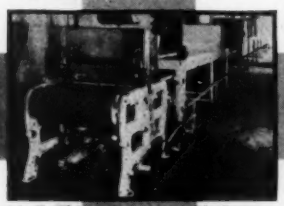
N. E. Mogul with Cherry Dropper, 2 Depositors, Currie Loader and Stacker. INSTALLED NEW IN 1949.

N. E. Mogul and Currie Stacker. INSTALLED NEW IN 1949.

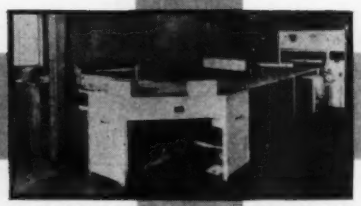
Huhn Chinook Dryer and Cooler.



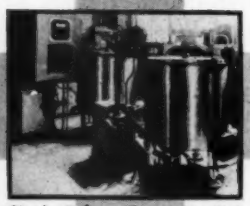
Hohberger Continuous Cream Fondant Unit. INSTALLED NEW IN 1951.



N. E. Thin Mint Unit with Depositor, 30' Skinning Table, 60' Cooling Tunnel and 2—90° Turntables, connected to 34" Enrober. INSTALLED NEW IN 1949.



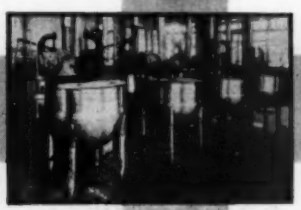
N. E. 34" Enrober with 72' Cooling Tunnel and 30' Packing Table and with 2—90° Turntables (optional).



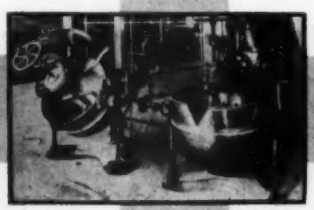
Single Column Tempering Unit and 2 Ben Moore 1000 lb. S. S. Chocolate Melters.

N. E. 34" Enrober with 72' Cooling Tunnel, 30' Packing Table, Auto. Feet and Bottoming Attachment. INSTALLED NEW IN 1949.

6—Savage S. S. Marshmallow Beaters.

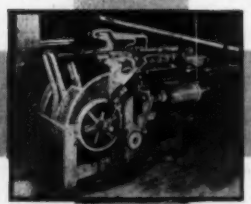


4—Acme 150 gal. Jacketed S. S. Mixing Kettles.

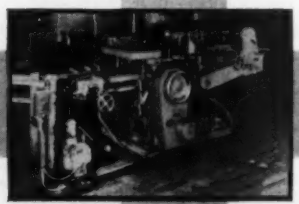


2—Savage 50 gal. S. S. Patent Tilting Kettles.

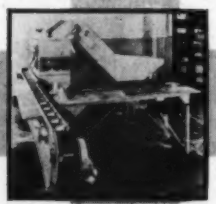
Battery of Copper 38" Revolving Pans, with and without coils and ribs.



Hayssen 3—11 cellophane Wrapper.



Package Machinery Co. FA Wrapper. INSTALLED NEW IN 1953.



Triangle G2C Elec-Tri-Pak Filler.

3—Carrier & Baker 5 to 15 ton cap. Refrigeration Units.

Inspection Can Be Arranged By Appointment

Representatives On Premises To Show You Through Plant

Finest Selection of Candy Equipment Ever Offered

- Most of this equipment is in practically new condition.
- All machinery and equipment was in operation until recently and is still set up in original position.
- All equipment must be sold and moved immediately.

ACT NOW...All Offerings Are Subject To Prior Sale

Principle Items Available For Sale

MOGUL DEPARTMENT

1—Complete National Equipment Mogul Unit consisting of: National Steel Mogul, Serial #1185, equipped with National Cherry Dropper, 2 — National Depositors, Currie Loader, Currie Stacker, with Motors and Controls. INSTALLED NEW IN 1949.

1—National Equipment Steel Mogul, equipped with National Depositor and Currie Stacker, with Motor and Controls, INSTALLED NEW IN 1949 (one just sold).

1—Huhn Chinook Starch Dryer and Cooler, with Elevators, Conveyors, Dust Collectors, Motors and Controls.

1—Wolf Sheffman Starch Conditioning System, consisting of 15 Trough Dryer, Starch Reel Pre-Sifter, Conveyors up to 65 Lineal Feet, Motors, Dryers, Cyclones, Blowers, Variable Speed Transmissions, 1 — 21 Trough Cooling Unit with all accessories.

1—National Equipment Depositor, with 2 HP Motor and Starter.

1—Latini Gum Sanding Machine.

1—Powers Heating and Dehumidifying Unit, for heating and cooling candy centers, with Powers Psychrometer Control Panel.

Colseth Starch Board Lifting Trucks.

350 Aluminum Moulds, complete modern line.

Reel Type Starch Cleaner, Motor and Controls.

Wood Starch Trays, 14½ x 32 x 1¼, with Starch.

MARSHMALLOW BEATERS

6—Savage Stainless Steel 200 lb. Marshmallow Beaters, Silent Chain Drives to Sterling 5 HP Motors, Push Button Controls.

1—Savage 150 lb. Marshmallow Beater, Silent Chain Drive, 5 HP Motors and Controls.

PAN DEPARTMENT

35—Copper 38" Revolving, Grossing and Polishing Pans, with and without Coils and Ribs.

5—Copper Jacketed Kettles, from 15 to 150 gal. capacity.

THIN MINT UNIT

(Installed in 1951)

National Equipment Thin Mint Machine equipped with National Depositor, with Hydro-Seal Pump Bar, complete with 30' Skinning Table, 60' Refrigerated Cooling Tunnel and 2 — 90 degree Turntables, connected to 34" Enrober. Will sell as complete unit or as separate machines.

CONTINUOUS & AUTOMATIC

CHOCOLATE COATING DEPARTMENT

2—National Equipment 34" Enrobers, Serial #2685 and 2599, complete with 72' Cooling Tunnels, 30' Packing Tables, Automatic Feeders, Bottoming Attachments, Motors, Speed Reducers and Controls, INSTALLED NEW IN 1948 and 1949.

2—National Equipment 16" Enrobers with Bottoming Attachments, automatic Feeders and Cooling Tunnel, Motors and Controls.

2—Single column automatic Tempering Units.

3—Ben Moore 1000 lb. Stainless Steel Chocolate Melters, with Agitators, G. E. Motors and Controls.

1—Ben Moore 800 lb. Stainless Steel Chocolate Melter, with Agitator, G. E. Motor and Controls.

1—Ben Moore 500 lb. Stainless Steel Chocolate Melter, with Agitator, G. E. Motor and Controls.

4—National Equipment Chocolate Melters, 300 lb., 500 lb., and 1000 lb. caps.

4—National Equipment 90 degree Turn Tables.

MISCELLANEOUS

5000 Assorted Fancy Chocolate Moulds, numerous shapes, sizes and designs.

1—Currie Starch Cleaner, Motor, Switches.

2—National Equipment 90 degree Turntables.

1—Baker 10 ton Ice Machine.

1—Lipman 5 ton Ice Machine.

COOKING AND BEATING DEPARTMENT

1—Hohberger Continuous Cream Fondant Unit, Serial #7150, with 10 HP V-Belt Drive to Cylinder and 1 HP Drive for Drum, with Recording Gauge and Controls. INSTALLED NEW IN 1951.

4—Acme Stainless Steel 150 gal. Gum Kettles, with U.S. 2 HP Geared Motors, direct connected to Double Action Agitators.

3—Savage 150 gal. Jacketed Gum Kettles, Single and Double Action Agitators.

2—Savage 50 gal. Double Action Patent Tilting Kettles.

2—Acme 25 gal. Stainless Steel Jacketed Kettles.

1—Ball 5 ft. Fondant Beater, 5 HP Motor and Switch.

1—Ball 4 ft. Fondant Beater, 7½ HP Motor and Switch.

WRAPPING & PACKAGING MACHINES

1—Packaging Machinery Co. FA cellophane Wrapper, Serial #20055, INSTALLED NEW IN 1951.

1—Hayssen 5 — 11 cellophane Wrapper, Serial #9006, Integral Thermostatic Control, Motor in Base and Dial Control.

2—Triangle Elec-Tri-Pak Fillers, Model G2C, Serial #6560, Dual Unit with Hopper Feeds, Continuous Filling Table, Model SO-3B, Serial #6561, Geared Motors and Controls.

1—A. H. Ross Box Filler, Model A, Serial #213, motor in base and Controls.

1—Holm automatic Bag Filler, Model VS-DS, Serial #803, ¼ HP Motor and Switch.

1—Pack-Rite cellophane Bag "Speed Sealer," with Roll and Preheater, Dial Controls, ¼ HP Motor and Switch.

2—"Speedee" automatic Fillers, Models 243 — Serial #145, and Model 242 — Serial #227, with ¼ HP Motors and Switches.

1—Dough Boy Self-Feeding Sealer, Model 40, Serial #472694.

Write, Wire, Phone Collect For Full Details and Quotations

Union Confectionery Machinery Co., Inc.

318-322 Lafayette St.
New York 12, N. Y.
CAnal 6-5333-4-5-6

167 North May St.
Chicago, Illinois
SEely 3-7845

The MANUFACTURING CONFECTIONER'S Clearing House

MACHINERY FOR SALE

FOR SALE: Lynch Wrap-O-Matic Bar Wrapper with Electric Eye. In excellent condition. Box 537, **The MANUFACTURING CONFECTIONER.**

FOR SALE: Package Machinery Co. DF Bar Wrapper, with electric eye. In excellent condition. Box 539, **The MANUFACTURING CONFECTIONER.**

FOR SALE: New Forgrove 22B Twist Wrapper. Never used. In original crate. Box 833, **The MANUFACTURING CONFECTIONER.**

FOR SALE: 2—Package Machy. 22B Twist Wrappers. Practically new. Hardly used. Box 834, **The MANUFACTURING CONFECTIONER.**

FOR SALE: 3—Package Machy. latest type Model K Kiss Wrappers. With fantail twist. Almost new. Box 835, **The MANUFACTURING CONFECTIONER.**

FOR SALE: 38" and 40" Copper Revolving Pans. With and without coils and ribs. Must be moved immediately. No reasonable offer refused. Box 836, **The MANUFACTURING CONFECTIONER.**

32" ENROBER WITH BOTTOMER, with 80' long Economy Lustr-Koold Tunnel —complete line. Also in same line, cooling tunnel for peanut-honeycombed candies or bars. Box 636, **The MANUFACTURING CONFECTIONER.**

LP-3 POP WRAPPER, U. S. Automatic Cartoning Machine, Simplex Steam cooker, D. F. Bar Wrapper, Instant Fondant Machine, FA-3 Package Wrapper with 4 changes, 600-lb. N. E. Hard Candy Cooker. Box 635, **The MANUFACTURING CONFECTIONER.**

FOR SALE: Currie Stacker (hardly used); FAQ Wrapping Machine; U. S. Automatic Cartoning Machines; CM-2 Cellophane Wrapper; 24" N.E. Enrober with Bottomer, refrigerated slab, and tunnel; 3—125-gal. stainless steel Kettles. Box 8310, **The MANUFACTURING CONFECTIONER.**

CLASSIFIED ADVERTISING is designed to aid the candy man in finding a market for or source of used equipment, services and miscellaneous items. In replying to ads address: Box Number, The Manufacturing Confectioner, 418 N. Austin Blvd., Oak Park, Illinois.

Minimum insertion is 3 lines, at 35c per line, 70c for bold face; not subject to agency discounts.

42" ENROBER with 80' long Economy Cooling Tunnel, 40' packing table; 32" Enrober with 65' Economy Lustr-Koold Tunnel and 20' packing table; 2 Lynch Wrappers with roll card feed; 2 D.F. Bar Wrappers; Nut Roll Machine with caramel coater; 500, 1000 and 2,000 lb. Chocolate Kettles; 120-qt. Glenn Beaters. Box 934, **The MANUFACTURING CONFECTIONER.**

WRAP-ADE SUCKER WRAPPER available for sale. Reasonably priced. Box 935, **The MANUFACTURING CONFECTIONER.**

FOR SALE: Friend Bostonian Model Hand Roll Machine in good condition with 240 new wooden trays. **Norris Candy Co., P. O. Box 2208, Atlanta, Ga.**

FOR SALE: #4½ Champion Continuous Feed Cookie Machine to take a 19 inch plaque with ¾ H.P. 110 Volt 60 Cycle motor and five standard dies ½", ⅝", ¾", ⅞" and 1". **Norris Candy Co., P. O. Box 2208, Atlanta, Ga.**

FOR SALE: Hollow chocolate equipment, complete. Suitable for small manufacturer or retailer. Mixer, moulds, etc.—Very reasonable. Reply to Box 832, **The MANUFACTURING CONFECTIONER.**

CANDY MAKING EQUIPMENT: Werner Syrup Cooler; Copper Steam Kettle—400# Cap; (1) Wooden Mogul; (2) National Depositors and 10, 12, 15, 16, 17, 20 and 24 Pump Bars; (1) #17 Hydroseal Pump Bar; (1)#24 Hydroseal Pump Bar; Mills Marshmallow Beater, Pulley Drive; Hand Starch Printer; (1) Up-end Truck; Platform Lift Truck; Long and Short Stem Taylor Thermometers 380-400 range; (2) 16" National Enrobers, (1) 40' Tunnel, (2) Cold Tables and (2) Bottomers; Copper Bon Bon Dipping Pots with electric switches; (14) all sizes 16" Sieves; 90' Steel Roller for Peanut Bar Candy; Small Hand Tools for Caramel and Hard Candy; Mills Cut Rock Cutter; Mills Drop Machine; Mills Cut Rock Cutter (hand); Mills ½" Mint Cake Cutter; Mills Nougat Cutter with ½ HP Motor; (2) Exhaust Fans, 1 with Motor, 1 Pulley Drive; (1) 24" ½ HP Motor and Switch Exhaust Fans; NO FAIR OFFER REFUSED. **Weaver, Costello & Co., Inc., 428 Wood Street, Pittsburgh 22, Penna.**

MACHINERY WANTED

WANTED: Package Machinery DF1 Bar Wrapper. State age, condition, and best cash price. Box 6310, **The MANUFACTURING CONFECTIONER.**

WANTED: Used Confectionery Laboratory model equipment: mixers, vacuum cookers, beaters, MacMicheal viscosimeter, pH meters, etc. for Sponsored Industrial Research. Write Box 733, **The MANUFACTURING CONFECTIONER.**

MISCELLANEOUS

XMAS PRINTED CELLOPHANE, red and green. 300MST. 650 lb. in 7¾ inch rolls. Sacrifice at 60c lb. **Sylvan Sweets Co., Box 48, Easton, Penna.**

SALES LINES WANTED

SALES SPECIALISTS—A highly trained organization of specialty salesmen and demonstrators capable of proving products in actual production batches, calling on the ice cream, confectionery and bakery manufacturer in New England, New York, New Jersey, Pennsylvania, Delaware, Maryland and Washington, D.C., desire a line to sell the sweets industries on a commission basis. Our 26 years experience selling and servicing the sweets industries, enables us to furnish formula to the trade and render our principal an invaluable service. We will consider a line for all or part of the above-mentioned territory. Box 937, **The MANUFACTURING CONFECTIONER.**

PENNY LOLLIPOP LINE FROM THE SOUTH; also Novelty and Confectionery line for Metropolitan New York territory. Personal coverage by two well-known brokers, of all Candy Jobbers, Venders, Supermarkets. Kunz and Eitelberg, Box 33, St. Albans, L.I., N.Y.

HELP WANTED

IN L. A., CALIFORNIA, an experienced cream, fudge and nougat man for medium size wholesale plant. Write **Warren Watkins, 766-8 Merchant Street, Los Angeles 21, Calif.**

AN EASY, PROFITABLE SIDELINE! All your customers buy Christmas Cards—for business and personal use. Here's a unique gallery of personalized Christmas greetings for those who want "something different." No other line like it. Selection of 126 exclusive designs, including 36 especially for business firms—all with customer's name. Wide price range. Up to $5 to $75 commission on each sale. Full or part time. For elaborate sample outfit from famous old-established firm, write PROCESS CORP., 1950 S. Troy St., Dept. TB, Chicago 23, Ill.

CHIEF CHEMIST

for middlewestern chocolate manufacturing concern, having a national reputation for quality. Will be in charge of product development and product control. Please write giving past experience and complete personal resume so that an interview can be arranged. Our employees know of this ad. Box 936, **The MANUFACTURING CONFECTIONER.**

BUSINESS OPPORTUNITY

GERMAN SPECIALIST in Candy Making (Liquor, too) wants to sell the recipes and willing to come to show you. Please answer in detail. Box 933, **The MANUFACTURING CONFECTIONER.**

WELL ESTABLISHED WHOLESALE manufacturing business specializing in Salt Water Taffy. The largest business of its kind on the Jersey Coast. Operating with a trade name in rise for over 50 years. We also manufacture items to the jobbing, variety and chain stores. Owner selling on account of health. Prospective buyer must be in financial position for at least $60,000.-00. Business situated in one story factory containing 10,000 ft. Building can be bought or rented. Box 932, **The MANUFACTURING CONFECTIONER.**

FOR SALE—Going Candy business—two retail stores fully equipped for making candy, personnel will stay if needed. Located large Midwestern city, terms if needed. Box 837, **The MANUFACTURING CONFECTIONER.**

RETAIL AND WHOLESALE CANDY factory, fully equipped for small wholesale business. Established 30 years, growing city of 20,000 people. Reason for selling other business interest. Large mortgage can remain. **Bodine's Candy Company, Bridgeton, N. J.**

POSITIONS WANTED

SPECIALIST PAN CONFECTION (DRAGEE) FOREMAN, exp. in hot, cold and chocolate pan work with lasting gloss. Box 931, **The MANUFACTURING CONFECTIONER.**

FOREMAN IN GENERAL PAN LINE including Bubble Chewing gum bass and regular gum bass, looking for better position. I will also teach how to make gum bass in the United States and also foreign countries. Box 938, **The MANUFACTURING CONFECTIONER.**

CANDY EXECUTIVE: Plant manager of leading candy manufacturer for several years. Experienced in all plant operations plus purchasing, production and distribution. Proven ability to assume full responsibility of plant operations. Box 734, **The MANUFACTURING CONFECTIONER.**

PAN MAN AVAILABLE: 35 years experience in general pan line. Hot and cold grossing finish and polish, including chocolate pan work. 15 years in charge pan department as foreman. Best of references. Desires a change. Box 438, **The MANUFACTURING CONFECTIONER.**

MOULDING MAN, long years experience, last 10 years supervisor of moulding dept. of well known New York concern. Also experienced in other plant operations. Mechanical background. If the right position—would go anywhere in the U. S. Box 939, **The MANUFACTURING CONFECTIONER.**

BROKERS WANTED to handle profitable value line of small packaged rubber specialty dolls and Easter packaged goods on commission and exclusive area. Following States open:—Ark., Calif., Colo., Ind., Kans., Ky., La., Mich., Minn., Miss., Mo., Nebr., Nev., N. Dak., S. Dak., Ohio, Okla., Tenn., Texas except El Paso, W. Va. Box 9310, **The MANUFACTURING CONFECTIONER.**

PRODUCTION SUPT. wishes to contact reliable organization interested in the manufacture and sale of quality Hard Candy Specialties. Writer has 26 years experience with Life Savers and F & F Lab. in Plant Layout, Confection Lab. Research, Quality Control, Supervision of Production, plus an excellent Sales experience record. Age 45. Box 9311, **The MANUFACTURING CONFECTIONER.**

INDEX TO ADVERTISERS

In The MANUFACTURING CONFECTIONER

Advertisements of suppliers are a vital part of the industrial publications's service to its readers. The following firms are serving the readers of The MANUFACTURING CONFECTIONER by placing their advertisements on its pages. The messages of these suppliers are certainly a part of the literature of the industry.

Advertising space in The MANUFACTURING CONFECTIONER is available only to firms supplying equipment, materials, and services for the use of confectionery manufacturers. Advertising of finished confectionery products is not accepted.

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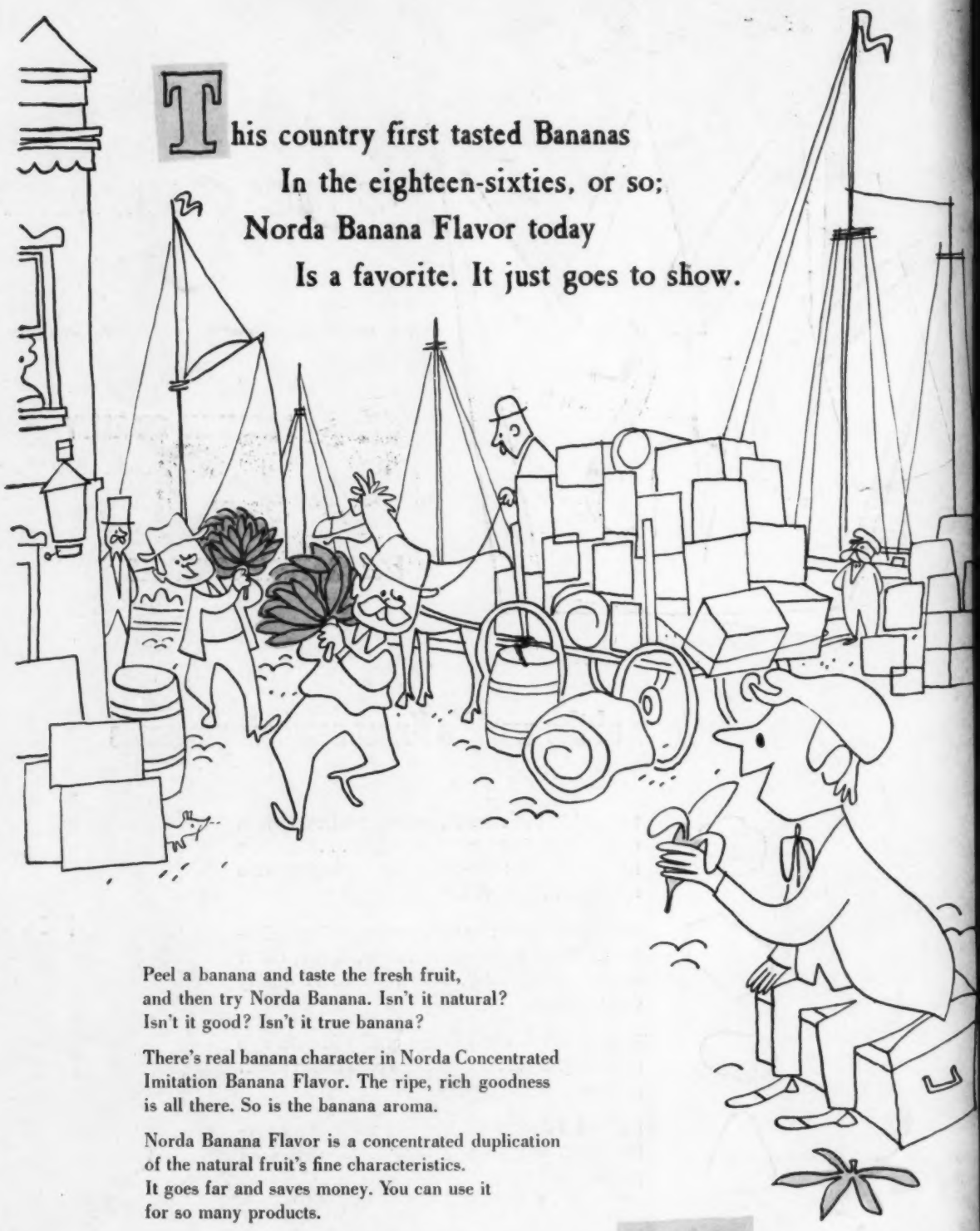
RAW MATERIALS

PRODUCTION MACHINERY AND EQUIPMENT

PACKAGING SUPPLIES AND EQUIPMENT



This country first tasted Bananas
In the eighteen-sixties, or so;
Norda Banana Flavor today
Is a favorite. It just goes to show.

Peel a banana and taste the fresh fruit,
and then try Norda Banana. Isn't it natural?
Isn't it good? Isn't it true banana?

There's real banana character in Norda Concentrated
Imitation Banana Flavor. The ripe, rich goodness
is all there. So is the banana aroma.

Norda Banana Flavor is a concentrated duplication
of the natural fruit's fine characteristics.
It goes far and saves money. You can use it
for so many products.

Norda wants you to test, try, and taste it.
Send for generous free samples.

Use "A Favorite to Flavor It" . . . A Norda Flavor

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